Drug and Cosmetic Industry

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JOSEPH SPAULDING, *News Editor*
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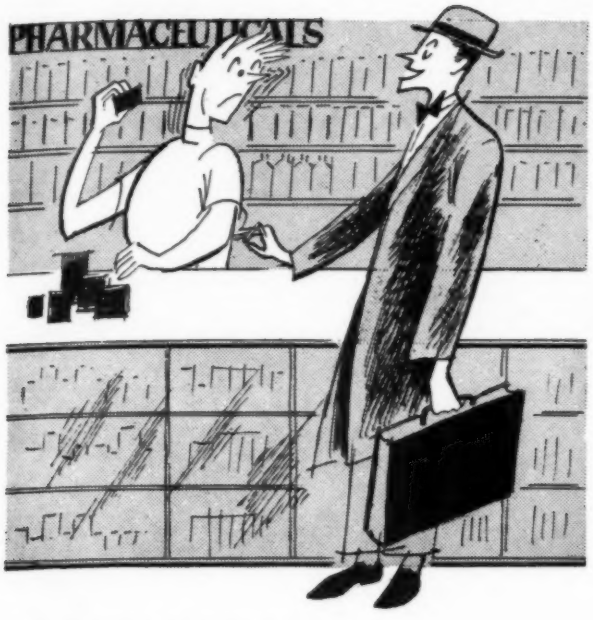

"Lillycaps don't mean a thing,
its named after the Boss's wife."

Keeping Posted

Pharmaceutical Prospects

In an eighteen company field survey made by Harris, Upham & Co., investment brokerage firm, it is noted that Abbott Laboratories products marketed since 1945 accounted for half of the company's 1953 volume, and that items introduced during the preceding three years made up 20 per cent of 1953 sales. Also, that Smith, Kline & French Laboratories, owing primarily to the development of Thorazine (chlorpromazine), experienced a 23 per cent sales increase in 1954. In addition, the marketing of a new hormone, Meticortin (prednisone), by Schering Corporation in the Fall of 1954 has already given indication of increasing sales by more than 100 per cent.

Prednisone and prednisolone, cortisone derivatives more effective in smaller doses, and causing less retention of salt and water than cortisone, are effective in the treatment of rheumatoid arthritis, asthma, chronic lung ailments, rheumatic fever, allergic conditions, certain skin disorders, nephrosis, and in some blood disorders. The market potential for this type of drug can be appreciated from the fact that more than 10,104,000 men and women over the age of 14 suffer with arthritis and rheumatic diseases, and several million more are afflicted with conditions in which this drug is of benefit.

The market for Salk polio vaccine is estimated at $200 million in sales at manufacturers' levels. This is based on an estimate that in 1956 there should be a minimum of 50 million persons in the age groups ranging from three months to 19 years and pregnant women, which are the groups most susceptible to polio. The long range demand for the vaccine will depend on several factors, including the frequency with which booster shots must be taken, the possible development of different types of effective polio vaccines, and the incidence of the disease in the face of an immunized population.

In addition to polio, there are indications that in other diseases—influenza, mumps, the common cold, for example—effective immunization procedures may be developed. Vaccines may become an increasingly important factor in the ethical pharmaceutical product lines.

In the cardiovascular diseases, despite the progress in the field of hypertension, it is pointed out that "these agents are at best only of temporary and partial benefit."

"It may be anticipated that all of these drugs will be discarded with the development of more effective chemical means of controlling this very common disease. . . . Although definitive therapy for most cardiac diseases is not available, current progress in medical research gives promise of real therapeutic achievements in this area.

"There are still many diseases to conquer. It is reasonable to assume that the future will see the development of effective treatment of viral diseases, drugs that will be of real value in cancer therapy, products which will control high blood pressure, and agents which will be useful in treating various diseases of the nervous system. These are but a few of the areas of possible future research and effective product development."

Beeseley—Indianapolis Man of Year

Eugene N. Beeseley, president of Eli Lilly and Company, was named Indianapolis "Man of the Year" on January 2 by the Indianapolis Times. "The Eli Lilly and Company president was chosen because of his company's outstanding contribution to the most spectacular development of the generation (polio vaccine)," said the Times, which added, "The Beeseley-Lilly contribution was important to the immediate community of metropolitan Indianapolis, but it also went far beyond that into state and nation." The Times said that Lilly had supplied almost three-fourth of the polio vaccine to date. At the time of Beeseley's choice, 19,750,667 doses of Lilly polio vaccine had been released by the Government for distribution. Mr. Beeseley, now forty-six, joined Lilly in 1929. He spent his early years as a sales representative, and later gained broad experience in major areas of the company's operations. He was named president in April, 1953.

Your beauty preparations will offer

Cleanliness That Clings with G-11®

(Brand of Hexachlorophene)

Cleanliness that clings—the continuous hour-after-hour degerming action of G-11—is the secret of success behind many leading soaps, creams, lotions and other beauty products.

G-11 provides protection against bacteria *between washings.* It leaves a microscopic anti-bacterial deposit that does not rinse off but stays on to stop the growth of trouble-making germs deep in the skin. It is easy to incorporate into your formula.

For users of your products, G-11 means fresher, cleaner skin, better protection against skin blemishes, and effective deodorizing action. May we tell you more about the sales- and profit-making benefits of G-11?

SINDAR® Corporation
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330 West 42nd Street • New York 36, N. Y.

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PAS Tariff Situation

A hearing was held January 24 in Washington before the U. S. Tariff Commission on application by Sumner Chemical Company for an investigation of the injury and threat of further injury created by imports of paraaminosalicylic acid (PAS) and its salts.

Discovered to be an effective anti-tubercular drug by Swedish investigators in 1945, PAS was found by investigators in the United States in 1949 to enhance the efficacy of streptomycin if the two drugs were given together. Also it was found that the amount of streptomycin required to treat TB could be reduced from two grams per day to two grams per week provided PAS was given daily. This discovery not only reduced the cost of treatment, but also made possible the treatment with streptomycin for indefinite periods of time without development of drug resistance by the organism.

In 1951 a high percentage of the hospitalized TB patients in this country was receiving streptomycin-PAS therapy. The U. S. Tariff Commission reported that year that over 600,000 pounds of PAS was produced in this country of which 420,000 pounds were sold. The amount sold was sufficient to treat between 45,000 and 60,000 tubercular patients. Total imports of PAS and its salts in 1951 totaled 28,000 pounds, most of which came toward the end of the year. Concessions on this class of compound allowed at the Torquay Convention on tariffs in 1951 cut duties approximately in half, or from about $2.70 to about $1.40.

In 1952, the duty concessions permitted importers to undersell U. S. producers by as much as $1.00 per pound and by the end of 1952 the selling price was depressed sufficiently to force several important U. S. producers out of the market. Total imports that year were almost four times the 1951 total and amounted to close to 100,000 pounds. In 1953 imports had risen to almost one-quarter of a million pounds and the number of original U. S. producers had been reduced from nine to three. By 1954 imports had risen to a point at which roughly 40 per cent of all TB treatment in the U. S. was dependent on foreign material. During this year the last large chemical manufacturer remaining in PAS production abandoned the effort and Sumner became the only remaining supplier of the bulk material.

From 1953 to the middle of 1955, Sumner met the continuing import pressure by temporary reductions from its list prices in the hope that some relief could be obtained through various laws designed to aid U. S. industry. It was also hoped that U. S. Customs appraisers would continue to maintain that these reductions were of a temporary character made necessary by import competition. In June 1955, however, customs appraisers found that these lower prices were of sufficient weight to create a lower duty base and they, therefore, reduced duties to their present level of 71 cents per pound for sodium PAS, the most commonly used salt.

The duty history on sodium PAS shows that in 1950 it was $2.66 a pound; in 1953 it was $1.01 a pound; and now it is 71 cents a pound. This is a reduction of almost 75 per cent.

Sumner requested the rescinding of the duty concession allowed at the Torquay Convention which step would increase the duty on sodium PAS from 71 cents to $1 29 per pound, an increase of 58 cents. Sumner claims that this increase in duty would assure the maintenance of U. S. supplies by placing foreign and domestic producers on an exactly equal competitive basis. The alternative is complete extinction of production of PAS and its salts in the United States.

Ten Million Research Center

Approximately $10 million is to be spent by Parke, Davis & Company for a new medical research center at a location as yet undecided. Planning will take about a year, and actual construction another two years. P-D President Harry J. Loynd says "The new medical research center, including our present research facilities, would enable Parke, Davis & Company to strengthen its leadership and make greater progress in its studies aimed at finding answers to cancer, cardio-vascular diseases, mental disorders, virus diseases including the common cold, and other major health problems."

A staff of approximately 400 persons, headed by Dr. Leon A. Sweet, vice-president and director of research, are engaged in studies covering all of the important disease entities in current focus. However, Mr. Loynd says that a "substantial" number of persons will be added when the new medical research center is completed. Mr. Loynd adds:

"The research division of a pharmaceutical company is in the unique position of constantly trying to make its own developments obsolete. Even before a new drug reaches the market, scientists are at work improving on it. The research man is by nature never satisfied, and managements support his dissatisfaction, knowing that the highly competitive nature of industry demands it. The growth of any pharmaceutical company—indeed its very existence—is dependent upon its scientists . . . research items which must find tomorrow's drugs today."

American Cyanamid Research

American Cyanamid Company has effected consolidation of its research activities into a single division under the direction of Kenneth H. Klipstein, Division Manager, regrouping them geographically so that related activities are brought together at the appropriate research laboratory. This consolidation, part of a divisional realignment of the company started two years ago, began with the establishment of a Research Division designed to add effectiveness to the research and development function in the company's new organization structure. The Research Division, which has coordinate status with the nine operating divisions and carries out research for them, is now implementing a plan to complete the consolidation. The plan involves grouping related activities in laboratories at Bound Brook, N. J., Pearl River, N. Y., and Stamford, Conn. An important step toward this consolidation is a construction program to improve research facilities at Bound Brook and Pearl River.

POWERFUL REASONS

why you should use

- **ASCORBIC ACID U.S.P.**
- **COATED* ASCORBIC ACID 97.5%**
- **SODIUM ASCORBATE**

'ROCHE'

**This is Ascorbic Acid U.S.P. which has been coated with ethyl cellulose (approximately 1.2%). It is highly recommended and has many advantages for tablet manufacturers. Data on request.*

● When you buy from 'Roche' you deal with a house of over a half century's experience in the fine chemical field,—a house that produces every useful type of ascorbic acid to meet virtually every manufacturing need; the first to achieve commercial production of vitamin C by the famous Reichstein synthesis.

● Large consumers can have the advantage of single lots running as high as 3000 kilos—uniformly mixed, and necessitating only one assay. This is possible because 'Roche' really produces vitamin C "By the Tons."

● Small users are just as important to us—they get the same 'Roche' service, the experience of a house that for many decades has been in the forefront of vitamin research and manufacturing. 'Roche' technical personnel is equally ready to assist you with development and production problems.

● All types of 'Roche' ascorbic acid are uniform, readily soluble, and easy to handle. 'Roche' scientific production control is meticulous—it guarantees highest quality; specifications that even exceed U.S.P.'s.

● Quick delivery from strategically located warehouses, where of the following types are stocked to meet your individual pro specifications, and from which fresh material is insured by our volume of sales:

Fine Powder — Ultrafine (Mikro) Powder — Granular
Fine Granular — Superfine Granular — Ampul Type
Sodium Ascorbate — Coated Ascorbic Acid 97.5%

● 'Roche' packaging is designed to protect the original quality in sealed tamperpruf containers. Refuse to accept material if this seal has been broken or if original 'Roche' label shows signs of mutilation.

● Ascorbic Acid and Sodium Ascorbate 'Roche' are packed sealed polyethylene bags in 1-kilo and 2½ kilo tamperpruf triple metal containers. Larger quantities are packed in sealed polyet lene bags in fibre drums. Smaller quantities in amber screw bottles. *Ampul type* ascorbic acid is packed under inert gas in gram bottles and in 1-kilo and 2½ kilo tamperpruf metal contain

BUY 'ROCHE'—DEPEND ON 'ROCHE'

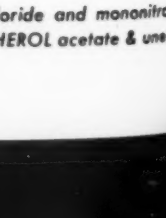
"The Vital Story of Vitamin C"—an Inside Science story is available in re form. It is published in the interests of the pharmaceutical manufactu and food processors who make their good products better with esse health-giving Vitamin C.

CALL 'ROCHE' FOR VITAMINS

VITAMIN DIVISION • **HOFFMANN-LA ROCHE INC.** • NUTLEY 10, NEW JERSEY
NUtley 2-5000

Pacific Coast distributor: L. H. BUTCHER COMPANY
San Francisco • Los Angeles • Seattle • Portland • Salt Lake City

In Canada: Hoffmann-La Roche Ltd., 286 St. Paul Street, West, Montreal, Quebec



OTHER 'ROCHE' VITAMINS INCLUDE

VITAMIN A acetate and palmitate • Dry VITAMIN A acetate • Beta CAROTENE • THIAMINE hydrochloride and mononitrate
RIBOFLAVIN • RIBOFLAVIN-5'-Phosphate Sodium • BIOTIN • PYRIDOXINE hydrochloride • NIACIN • NIACINAMIDE • dl-alpha-TOCOPHEROL acetate & unester

Rubinstein and Yardly Answer F.T.C.

Helena Rubinstein, Inc., and Yardley of London, Inc., have denied the recent charges made by the Federal Trade Commission that they give unequal promotional aids to their customers. Helena Rubinstein says that it makes promotional plans available to all its customers and that these plans conform to the Commission's Trade Practice Rules for the Cosmetic Industry. Yardley, while admitting customers selling its "A" and "B" line cosmetics received greater allowances in 1954 and 1955 than customers selling only its "A" line, explains that this results from temporary introductory measures involving the "B" line and is not "a permanent or established policy."

Rubinstein, in its answer, states that prior to the Trade Practice Rules it gave promotional payments for service and facilities furnished by customers under five alternate plans. On suggestion of the Commission's Bureau of Industry Cooperation, a sixth plan was added in 1952 and a seventh plan in 1954. In both instances, the answer states, the firm was notified by the Commission that its plans "would appear to constitute substantial compliance" with the trade practice rules.

Prior to the rules, the answer continues, the firm also had a legal program for cooperative advertising and promotion for various trading areas. In 1952 this program was considered by the Commission substantial compliance with the rules. Again in 1953 and 1954, the firm maintains, similar plans were in compliance with the rules and in conformity with Sec. 2(d) and (e) of the Clayton Act.

Yardley states that its "B" line cosmetics only recently has been placed on the market. This line is initially being placed in one or more leading stores in various cities with the development of public acceptance still in the early stages. In line with this program, the answer continues, only seventeen stores in 1955 received full time demonstrators.

"The nature and amount of the services or allowances (furnished "B" line customers) was not such as to confer upon any . . . a substantial competitive advantage" over competitors, the firm maintains. The answer also states that "B" line customers receiving demonstrators were required to waive any payment assistance based on their annual net purchases of "A" line products.

A.D.M.A. Public Relations Program

The American Drug Manufacturers Association is sponsoring a public relations program for the entire drug industry, one which will highlight dramatic achievements in the health field. The Association has approved the program and will underwrite it up to the sum of $100,000 annually. George F. Smith, president of Johnson & Johnson, and chairman of the A.F.M.A. Public Relations Committee, says that other drug associations and other organizations in the health field will be invited to participate in the program. Mr. Smith said that "The great achievements of the industry are unknown to the public generally and one of the objectives will be to inform the people of the Nation of these achievements."

Contempt Fines in Fair Trade

More and more courts are levying increasingly heavy fines on fair trade violators, especially those found to be in contempt of court, it is pointed out by Dr. John W. Dargavel. He cites as an instance of this trend the contempt fines totaling $6,300 which were levied by Judge Arnold Praeger of Superior Court, Los Angeles in the suit of Sunbeam Corporation v. Mart, Inc. The president of Mart was also sentenced to a five-day prison term for late payment of the fines. Mart's was found to be in contempt for 21 violations of a fair trade injunction granted to Sunbeam in 1950. A contempt fine of $900 was recently imposed by Judge Thomas Aurelio, New York Supreme Court, against Trubitz Hardware & Electric Co. for violating injunctions granted to General Electric in 1954. A similar contempt fine of $900, including $150 in legal fees, was levied by New York Supreme Court Justice Jacob Markowitz on Tolin's Gift and Warehouse Co. for three violations of an injunction awarded to GE. In another GE case, Judge Dineen, Supreme Court, New York County, fined Trumart & Co. $400 plus $150 costs including counsel fees. In two GE cases in New Jersey, the defendants, the Central Supply Co. and Windsor Sales Co., were fined each $100 and required to pay $500 in damages for contempt. In the Supreme Court of New York County, Justice William C. Hecht Jr. assessed the defendant, Berner's Pharmacy, $500 in damages in a fair trade suit brought by Julius Schmid, Inc.

New P.D. Advertising Campaign

One woman asks another, "You mean you had to pay twenty-five dollars for those new medicines?" The second woman replies, "Yes . . . but they saved $900 and my husband's life." This is the conversation of two women in the first of this year's advertisements of Parke, Davis & Company to appear in national magazines. The advertisement then goes on to explain that about 33 out of 100 people who got pneumonia years ago, died, and that the cost of the average case for those who survived was about $1,000, including three or four weeks lost from work. Today, it is explained, "the average case of pneumonia may cost no more than $100 . . . including loss of income, the doctor's visits, and the 'expensive' new medicines."

The new advertisements, of which this is the first, resulted from a survey of 2,500 physicians in the United States and Canada made by Parke, Davis representatives last July and August. Ninety-three per cent of the doctors said they favored educational advertising and suggested that copy be based on the cost of medical care, self-medication, and related subjects. Ralph G. Sickels, director of advertising and public relations, explains:

"For 28 years our company's national advertising has emphasized the importance of prompt and proper medical care. Now as a result of the survey, we're logically extending the campaign to drive home the fundamental truth that prompt and proper medical care 'can represent one of the really big bargains of your life—in terms of health, happiness, and peace of mind.' "

ADVERTISEMENT— *This entire page is a paid advertisement* *Prepared by U. S. Industrial Chemicals Co.*

U.S.I. CHEMICAL NEWS

Jan.-Feb. ★ A Series for Chemists and Executives of the Solvents and Chemical Consuming Industries ★ 1956

Minimum Daily Methionine Requirement Reaffirmed

Recent research has reaffirmed that for healthy adults, a minimum daily intake of 1.1 gm. of methionine is required to maintain positive nitrogen balance in humans.

As with other amino acids, the exact amount varies slightly from one individual to another, but appears to be independent of body weight, surface area or creatinine output.

D-Methionine, in contrast to the behavior in man of the D-isomers of all other essential amino acids, proved during tests to be equally as effective as DL-methionine in the maintenance of nitrogen balance. From this it follows that the L-isomer has no greater metabolic activity than the Racemic mixture (DL-methionine).

The amount of 1.1 gm. of either the L- or the DL-isomer was tentatively established as the minimum daily requirement of man, and 2.2 gm. was recommended as a safe daily intake.

TECHNICAL DEVELOPMENTS

Information about manufacturers of these items may be obtained by writing U.S.I.

Film badges for detecting radiation are now available to insure personnel protection in x-ray and radioisotope labs, industrial plants doing gamma radiography, and doctor's and dentist's offices. Badges read from .05 to 300 r. **No. 1131**

New refined liquid lanolin has high solubility, stability, versatility in drugs and cosmetics. Amber-colored oil is result of 11-step refining process. Properties same as lanolin except nontacky, lower melting point. **No. 1132**

New volatile solvent concentrate acts as strong synergist with low-cost solvents, boosting dissolving power and drying performance. Does not burn, imparts fire extinguishing properties, has relatively low toxicity. **No. 1134**

Succinic acid, organic polybasic acid, now available commercially for formulation of plasticizers, polyesters, alkyd resins, paints, drugs, cosmetics, chemical intermediates. **No. 1137**

Paper made wholly from nylon fiber, produced commercially for first time, is many times stronger than conventional types. Resists action of chemicals, mold, bacteria, light. Absorbs little moisture. **No. 1138**

WORLD'S FIRST COMMERCIAL ISOSEBACIC ACID PLANT PLANNED BY U.S.I. FOR 1957

New Intermediate Shows Promise In Plastics Industry For Plasticizing And Other Functions

The first commercial plant in the world for the production of isomers of sebacic acid, known as "U.S.I. Isosebacic" acid, will be built at Tuscola, Illinois. Initial production capacity of the plant will be 10 million pounds per year and completion of the plant is scheduled for early in 1957. Catalytic Construction Company of Philadelphia, will be engineers and contractors for the project.

"U.S.I. Isosebacic" acid is a mixture of isomers of sebacic acid in approximately the following proportions:

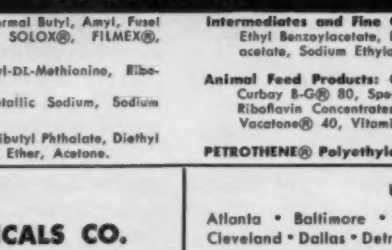
2-ethylsuberic acid	72-80%
2,5-diethyladipic acid	12-18%
Sebacic acid	6-10%

Over 400 research laboratories already have received samples of "U.S.I. Isosebacic" acid for evaluation. The product shows considerable promise as a raw material for vinyl resin plasticizers with excellent low-volatility, nonmigration, and low-temperature characteristics.

New Folder Aids U.S.I. Alcohol Users

Five-gallon drums of U.S.I. ethyl alcohol, USP come equipped with the FlexSpout* closure, a leakproof, tamperproof polyethylene spout which offers alcohol users greater convenience in handling and pouring. Five-gallon drums of SOLOX®, U.S.I.'s proprietary denatured alcohol solvent, and many other U.S.I. chemicals and solvents are also equipped with this closure.

An illustrated folder now available from U.S.I. describes the closure and shows how it can best be opened. Although mentioned only briefly in the folder, some users have discovered that a pair of ordinary kitchen tongs, the kind normally used for handling baby bottles, also makes an excellent opener for the FlexSpout. The technique is illustrated below.



*®Rieke Metal Products, Auburn, Ind.

Sodium Dispersion Package Units Can Now Be Purchased

Two package sodium dispersion units have been placed on the market by the Cowles Dissolver Company, Cayuga, N. Y. Both models, the 1000-2000 ml laboratory unit and the 3-7 gallon pilot unit, have been designed jointly by Cowles and the U.S.I. Research Department.

Although all the necessary parts, from motor drive to thermometer are contained in these package units, heart of each model is the Cowles "Dissolver", the particular impellor design that has been found extremely efficient in dispersing sodium in an inert organic medium.

PRODUCTS OF U.S.I.

Alcohols: Ethyl (pure and all denatured formulas), Normal Butyl, Amyl, Fusel Oil; Proprietary Denatured Alcohol Solvents SOLOX®, FILMEX®, ANSOL® M, ANSOL® PR.

Pharmaceutical Products: DL-Methionine, N-Acetyl-DL-Methionine, Riboflavin USP, Urethan USP, Intermediates.

Inorganic Chemicals: Caustic Soda, Chlorine, Metallic Sodium, Sodium Peroxide.

Esters, Ethers and Ketones: Normal Butyl Acetate, Dibutyl Phthalate, Diethyl Carbonate, Diethyl Oxalate, Ethyl Acetate, Ethyl Ether, Acetone.

Intermediates and Fine Chemicals: Acetoacetarylides, Ethyl Acetoacetate, Ethyl Benzoylacetate, Ethyl Chloroformate, Ethylene, Ethyl Sodium Oxalacetate, Sodium Ethylate solution, Urethan USP (Ethyl) Carbamate).

Animal Feed Products: Calcium Pantothenate, Choline Chloride Products, Curbay B-G® 80, Special Liquid Curbay®, DL-Methionine, Niacin USP, Riboflavin Concentrates, Vitamin B_{12} and Antibiotic Feed Supplements, Vacatone® 40, Vitamin A, D_3 and K_3 products.

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Glycerine Research Awards

First award of $1,000 and an honor plaque in the 1955 Glycerine Research Awards was conferred upon Dr. Reed A. Gray, plant physiologist of Merck & Co., on January 26, at the Waldorf-Astoria Hotel, New York, during the annual meeting of the Glycerine Producers' Association, sponsors of the awards. Dr. Gray's award-winning research showed that incorporation of glycerine in streptomycin formulations increased the absorption of the antibiotic by plants and enhanced its effectiveness against the common bacterial blight of beans. This disease now takes an annual toll of crops estimated at $6 million.

Second award ($300 and honor plaque) went to Eugene P. Kennedy, University of Chicago biochemistry professor, for his study of the biosynthesis of phospholipids, including the role of glycerine derivatives as precursors of these compounds that are found in all living tissue. From their universal occurrence and very active metabolism, it is clear that phospholipids have essential functions in the body; imbalances in lipids, for example, are closely linked to the development of arterosclerosis. But the exact nature of their role is not clearly understood, and Dr. Kennedy's identification of some of the chemical steps by which they are formed represents a major advance toward the detailed knowledge of their biochemical mechanisms.

Third award ($200 and honor plaque) was won by Dr. Karl H. Lauer, chemistry professor at the University of Alabama, for a process using slaked line in glycerine-water solutions to convert sodium sulfate into caustic soda. Employing a 65 per cent mixture of glycerine in water, he obtained a 98 per cent conversion of sodium sulfate to a 5.6 per cent caustic soda, whereas the best previous result with water was a 44 per cent conversion to a concentration of 0.98 per cent caustic soda. His work may have practical application in providing a use for sodium sulfate available as an industrial by-product in locations where its recovery has not been economically justifiable.

Pharmaceutical Promotion

Promotional expenditure in the pharmaceutical field is estimated at well over $200 million per year, according to Walter L. Griffith, Parke, Davis & Company promotion manager. Mr. Griffith points out the necessity to exercise careful judgment in making these expenditures, and says it is "gratifying to note the increased recognition of the need for basic factual understanding of the results obtained from the various media at our command." He explains that surveys, tests and investigations are continually needed to show the effectiveness of promotion material. "Even the newest approach, motivation research, may have use to us in an industry wide sense," he explains. "Motivation research skillfully applied where indicated and based on sound psychological procedures can be a valuable adjunct to our efforts." According to Mr. Griffith, 86 per cent of doctors surveyed recently by a national concern looked over all or most of the advertising material they receive.

Nation's Fair Trade Status

The status of fair trade legislation throughout the country as of now is:

Fair trade acts were enacted by forty-five states. Missouri, Texas, Vermont, and the District of Columbia has never had fair trade legislation.

Of the forty-five states which enacted fair trade laws, the high courts of Arkansas, Florida, Georgia, and Michigan have held the non-signer clause unconstitutional. Also the high court of Nebraska has held the entire fair trade act of that state unconstitutional.

This leaves forty states with completely effective fair trade acts, four states with fair trade acts effective except for the non-signer clause, and four states plus the district of Columbia in which there is no fair trade act.

Of the forty states with effective fair trade acts, 17 prohibit the giving away of anything of value, such as trading stamps, with a fair-traded product sold at the minimum fair trade price. These states are: Alabama, Connecticut, Delaware, Idaho, Indiana, Kansas, Maryland, Minnesota, Montana, North Carolina, Oregon, South Dakota, Utah, Virginia, West Virginia, Wisconsin, and Wyoming. This prohibition also exists in three of the states which have voided the non-signer clause of their fair trade acts. These are: Arkansas, Florida, and Georgia.

Warner-Lambert Taking Emerson Drug

Warner-Lambert Pharmaceutical Company will take over the Emerson Drug Company under terms of merger agreement. Subject to approval of stockholders in March the merger will take place on the basis of two shares of Emerson stock for one share of Warner stock, after retirement of 29 per cent of Emerson stock now owned by Warner, which company will also retire 80,000 shares of its own stock which was purchased below the market price at the time of acquisition. A recent stock dividend of five per cent by Emerson will also be considered.

Essential Oil Market

"It is safe to say that essential oil prices were lower in 1955 than they were in 1954." Louis A. Gampert, retiring president of the Essential Oil Association of U.S.A., told that group at its annual meeting last month. "Certainly, the number of oils that declined in price, exceeded those that advanced. As for 1956, I look for essential prices to remain around present levels or possibly fractionally lower, volume of sales will be good, and competition will be exceptionally keen."

Thurston & Braidich

Thurston & Braidich, New York, which is celebrating its one hundredth anniversary this year, informs us that Charles F. Walden retired from the firm as of the first of this year. The firm is continuing under the partnership of Edward S. Buckley, Charles R. Rosevear, Jr., and Eusebio B. Vina.

Excellently Managed Companies

Thirteen companies in the drug and cosmetic manufacturing field have been certified as Excellently Managed by the American Institute of Management. These companies are: Abbott Laboratories, American Cyanamid Company, Bristol-Myers Company, Colgate-Palmolive Company, The Gillette Company, Merck & Co., Olin-Mathieson Chemical Corporation, Parke, Davis & Company, Chas. Pfizer & Co., Procter & Gamble Company, G. D. Searle & Co., Smith, Kline & French Laboratories, and Sterling Drug, Inc. This places these firms among the 408 American and Canadian companies so cited by the institute for 1955. Ten of the winners named above are receiving the award for the sixth consecutive year, namely, Abbott Laboratories, American Cyanamid Company, Bristol-Myers & Company, Colgate-Palmolive Company, The Gillette Company, Merck & Co., Parke, Davis & Company, Procter & Gamble Company, Smith, Kline & French Laboratories, and Sterling Drug, Inc. Chas. Pfizer & Co. received the award for the fifth consecutive year.

Vitamin Foundation Grants

Ten new grants, for a total of $65,807, were made last month to American universities and medical centers by The National Vitamin Foundation. The grants are as follows:

For studies of the metabolism of *myo*-inositol in animal tissues, $4,000 to Dr. Laurens Anderson, University of Wisconsin, Madison.

For studies of the role of nutritional factors in antibody production, $9,000 to Dr. A. E. Axelrod, University of Pittsburgh.

For studies of pantothenic antagonists in normal subjects and in the treatment of carcinoma, $7,700 to Dr. William B. Bean, State University of Iowa, Iowa City.

For studies on the fate and possible role of bioflavonoids in animal metabolism, $3,125 to Dr. Carl D. Douglass, University of Arkansas, Little Rock.

For studies of the metabolism of vitamin B_{12} in the aged, $15,000 to Drs. R. S. Goodhart, B. F. Chow, and S. A. Tauber, The Nutrition Clinics Fund, New York.

For studies of the role of vitamin E in the nutrition of the baby pig and its possible interrelationship with essential fatty acids, $4,100 to Dr. Eldon G. Hill, University of Minnesota, Austin.

For studies of the tocopherol requirements of man, $9,000 to Dr. M. K. Horwitt, Elgin State Hospital, Elgin, Ill.

For studies of the evaluation of urinary formamido-L-glutamic acid excretion as a clinical test for folic acid undernutrition, $6,000 to Dr. A. Leonard Luhby, New York Medical College, New York.

For preparation of radioactive flavonoid compounds for studies on the fate and possible role of bioflavonoids in animal metabolism, $3,275 to Dr. Simon H. Wender, University of Oklahoma, Norman.

For studies of the metabolism of radioactive vitamin A, $4,607 to Dr. George Wolf, University of Illinois, Urbana.

Mallinckrodt Expands AEC Work

Mallinckrodt Chemical Works has signed a contract for operation of all the Atomic Energy Commission's feed materials facilities in the St. Louis area. The new contract reflects the increased scope of the work which Mallinckrodt performs for the AEC, and modifies a prior contract to a cost-plus-a-fixed-fee type. The previous contract provided for production at a unit price, and research, development and minor construction on a cost-reimbursement basis. Mallinckrodt presently operates a government-owned plant which will be expanded. Also, the firm will operate an AEC plant under construction at Weldon Spring Ordnance Works, near St. Louis.

LeBlanc Kary-On Claims Banned

The Federal Trade Commission has approved a consent order prohibiting LeBlanc Medicine Co., Lafayette, La., from making false or exaggerated claims for the health giving qualities of Kary-On, a vitamin-mineral supplement. Claims prohibited are that Kary-On is of any value in treatment of convulsions, Rheumatism, typhoid fever, heart trouble, diabetes, ulcers, epilepsy or asthma or any symptom or condition not caused by a deficiency of vitamin B_1, B_2, niacin, or iron. Also prohibited are claims that Kary-On is beneficial in treating a range of ills from stomach trouble and lack of energy to neuritis and aches and pains except when these conditions are caused by deficiencies in the two B vitamins, niacin and iron. In addition the firm must not advertise that gray hair or loss of teeth is an indication of a deficiency in these four elements.

WHO Non-Proprietary Names

The World Health Organization recently informed the U. S. Public Health Service that present proposed international non-proprietary names for certain pharmaceutical preparations are under consideration, with a view to their being selected as recommended names. The list includes 152 drugs. The list of proposed international non-proprietary names will be published in a forthcoming issue of the Chronicle of the World Health Organization and comments or objections in regard to these proposed names may be made by any interested person within the period which will end four months following the month of publication of the list in the Chronicle. Comments or objections should be sent directly to the Director-General, World Health Organization, Palais des Nations, Geneva, Switzerland. Such communications should refer to the drug in question, cite the proposed name, and state clearly and in appropriate detail the comments or objections—legal, technical, scientific, or other—concerning the name under consideration. Clear identification of the individual or agency making the comments or objections should be included, as well as an explanation of the specific interest in the drug and its name. Additional information can be obtained from H. van Zile Hyde, M.D., Chief, Division of International Health, Public Health Service, Washington 25, D. C.

CODEINE and Advertising

Coldene is *unlike* any nationally-advertised cold-and-cough remedy ever offered *over druggists'* counters. That's because it *contains Codeine* . . . all in proper balance with other important ingredients.

"*Doctors have prescribed the ingredient Codeine* for years because of its ability to provide long-lasting relief from coughs due to colds. They know it acts like a local anesthetic to quiet your cough reflex. Versatile Codeine is a nerve relaxant, an analgesic and pain killer."

These paragraphs are taken from a two-page advertising spread which appeared in the January 16, 1956 issue of Life magazine to introduce a new cough and cold medicine called Coldene, a product of Pharma-Craft Corporation, a subsidiary of Jos. Seagram & Son.

Describing stage 2 of a cold as a sore throat, the advertisement further dwells on the advantages of codeine as follows:

"Here Codeine in Coldene brings long-lasting relief from irritated membranes and tickling sensations. Many remedies do not provide sustained relief from these miseries. . . ."

As to the third stage, constant coughing, the advertisement says this is "caused by a sore or tickling throat. Codeine in Coldene blocks irritation of the nerves which produce coughing. And because it eases swallowing and reduces the tickling sensation, it helps bring relief."

With regard to muscular aches accompanying a cold, the advertisement says, "Codeine in Coldene is noted for helping to produce *sustained* relief from these torments. Helps provide the rest needed for normal recovery."

The only trouble with this advertisement is that the Bureau of Narcotics does not permit products containing codeine or any other narcotic to be advertised to the public. So it is not surprising that Coldene was advertised as being "*unlike* any nationally-advertised cold-and-cough remedy ever offered *over druggists' counters.*

However, as soon as the advertisement appeared, the Bureau of Narcotics went into action. The company was told that it would not be allowed to advertise the product to the public as containing codeine. This restriction of the Bureau of Narcotics does not appear in the law, and for this reason it is possible for a company not having any experience with narcotics to have a product cleared by every department in the company, including the legal department, only to find out that they should have talked directly to the Bureau of Narcotics to find out what their regulations are.

In this instance, the company raised the point of whether or not it could advertise the product to the public without mentioning that it contained codeine, even though codeine was one of the ingredients. It was told, that even if the Bureau of Narcotics were to permit this type of advertising, the company would probably be in trouble with other departments such as the Federal Trade Commission, and the Food and Drug Administration. In the first place the advertising would probably be considered misleading if codeine —a most powerful ingredient—was not mentioned. And secondly, the Food and Drug Administration might insist upon more uniformity between the labeling and the advertising.

In this country the narcotic regulations are more lenient than in Canada. For example, anyone can buy over the counter in this country a cough syrup containing codeine. However, the amount of codeine permitted in such products is limited, and the preparation is known as "an exempt product." Likewise, other products are exempt even though they contain small amounts of opium. But the bureau of narcotics insists that promotion and advertising of these preparations be limited strictly to the professions, such as medicine and pharmacy, and that under no circumstances are they to be promoted to the layman.

The reasons for these are clear if one understands the problems of drug addiction. Even though codeine is not to be compared with morphine, heroin, or some

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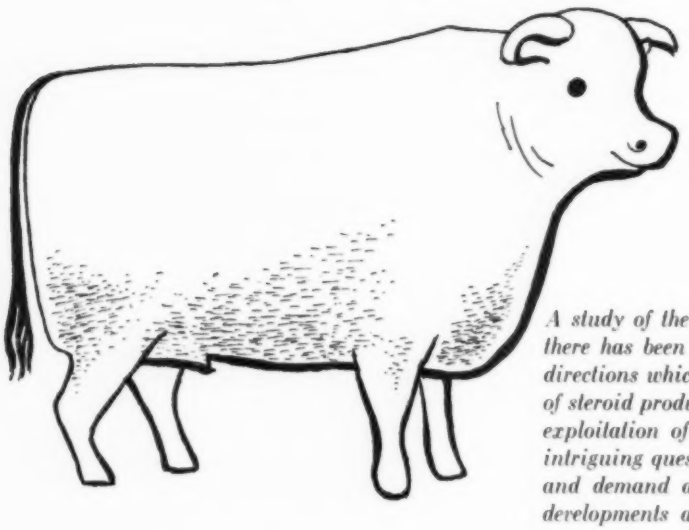
STEROID HORMONES 1956



a Review and a Forecast

by Norman Applezweig

A study of the facts and figures for the past year indicates that there has been a great upsurge in the use of steroid products and the directions which this field is taking. Since the development of steroid products was always intricately tied to the discovery and exploitation of new processes and new raw material sources, the intriguing question today is, "What is the balance of supply and demand and what is the future outlook for new steroid developments and adequate raw material sources."

Relation of Production to Raw Material Supply

Following the introduction of cortisone for clinical use in 1949, there was great concern expressed throughout the world about the question of an ample supply of raw materials. The original cortisone process which proceeded from the ox bile derivative, desoxycholic acid, made it seem probable that there could never be a sufficient source of raw material to provide the drug for all of the potential users. This coupled with the fact that it was believed that cortisone was a cure and would have to be used daily for the treatment of millions of arthritics throughout the world set off a search for new raw materials and superior processes which could break this apparent bottleneck.

In November of 1949 an article by Russell Marker and this author appeared which suggested that steroidal sapogenins represented the greatest class of compounds to provide possible starting materials for the synthesis of cortisone and that they represented an almost inexhaustible source of raw materials. Several weeks later in a letter to the editor of Chemical & Engineering News, which had carried this article, a prominent research executive protested that the article had raised false hopes and that the world's entire supply of ox bile, steroidal sapogenins, and even soy sterols (if these should prove suitable) could never begin to take care of the need that existed. After five years it is now possible to look back at the history of the relationship between raw material supply and production developments to see that neither the authors of the paper nor the author of the protesting letter were either completely right or wrong. At the time the article was written we were only able to guess and suggest that the 11-oxygen function could be put into the desoxy steroid nucleus by chemical means. To make this easier, plant steroids having an oxygen function in the 12 position were sought after. An extensive search was also conducted for the one known genin, sarmentogenin, which reputedly had an oxygen in the 11 position. This search was conducted with some success and chemical methods were devised which could insert the 11 oxygen even in the completely desoxy steroids. All of these developments, however, were overshadowed by the development in the Upjohn Company laboratories of a microbiological method for oxygenating desoxy steroids in the 11 position. With the commercial development of such a process fears for the availability of sufficient raw materials began to recede and the race developed into one between the fermentative processes starting with progesterone or compound "S" and the chemical process using desoxycholic acid from ox bile.

Subsequently vast improvements were made in the

original ox bile process so that yields from desoxycholic acid were greatly improved. Also cholic acid, which occurs in ox bile in the ratio of three parts to one of desoxycholic, was found to be readily convertible to desoxycholic acid so that the quantities of raw materials available for the ox bile process as well as the cost of production were greatly improved. On the toher hand, in response to the huge demand for desoxy steroids for the fermentative process, new large-scale production of steroidal sapogenins and improved conversion methods for the use of such materials as stigmasterol from soy sterols resulted in decreasing the cost of production of the desoxy steroids. With the decrease in emphasis on the need for ox bile, the price of this raw material came sharply down. But the most important factor which clouded the horizon of steroid development was the recognition that cortisone was not a cure for arthritis and that its continuous use was accompanied by certain hazards which considerably dimmed the outlook for its mass consumption.

Relation of Production Methods to Sales

The struggle between animal raw material sources (ox bile, cholesterol, etc.) and the vegetable sources, (diosgenin, stigmasterol, etc.) took on a new complexion once the competitive processes were on stream. Cortisone became cheap enough and available enough for mass use. The problem now was—*which of the competing firms using the different processes would manage to capture enough sales to keep their process economical.* The history of the price decline in cortisone reflects the fact that each side in this competition was able consistently to effect economics and produce the compound at lower and lower costs.

The major users of the desoxycholic acid process were Merck, Schering (Bloomfield), Roussell in France and Organon in Holland. The major exploiters of the fermentation process were Upjohn and Pfizer. In 1954 when Merck found it tough going against the superior sales forces of Upjohn, who now had a fully developed fermentation process, a merger with Sharp & Dohme tipped the balance back in favor of the desoxycholic acid processors. In one quarter of 1954 a tremendous surge in cortisone sales resulted from the entry of the Sharp & Dohme sales force into the field. As of March 1955 the sales of adrenal steroids were roughly divided as Merck (Sharp & Dohme) 50 per cent, Upjohn 40 per cent, Pfizer and Schering together 10 per cent.

While raw material procurement is always a problem for someone who has a huge investment in a process and a product, the competition between animal and vegetable steroids was now completely dependent upon the ability of the people utilizing these materials to sell their finished product.

The extent of sales that could be anticipated by each of the opposing groups was a function of the sales force, sales effort, and sales direction. With regard to the latter, Pfizer in the middle of 1954, offered bulk supplies of their adrenal steroids to other manufacturers in an effort to increase their production output. Upjohn has also recently made available bulk supplies to others. Roussell and Organon have been offering bulk supplies mainly for the European market but their output is considerably smaller than the American firms. A major factor influencing total sales, however, has been and will continue to be, new product development.

New Product Development

Hydrocortisone, which was made clinically available late in 1951, began to show its influence on total sales within the next year. New dosage forms for both cortisone and hydrocortisone greatly increased the dollar volume received by the pharmaceutical houses responsible for them. Ointments, drops and lotions of adrenal steroids for ocular use, dermatology, etc. soon began to increase the dollar volume from these compounds. The greater efficacy of hydrocortisone began to make itself felt in 1954, so that a greater number of doctors were prescribing adrenal steroids for a greater number of uses.

In 1954 the introduction of the fluorine atom at the 9 alpha position in the hydrocortisone molecule was

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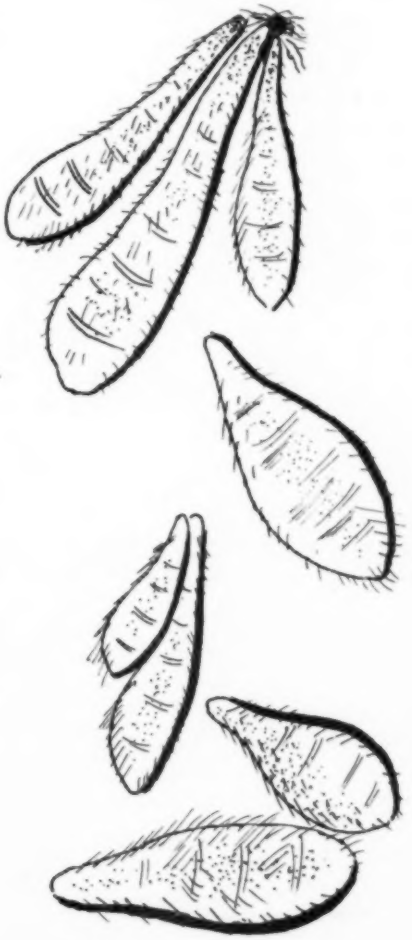


by Frazer V. Sinclair

Hope for

A great many people, including politicians, economists and businessmen have been expressing increasing doubts, over the past decade, about the ability of small business to continue as part of the American business scene. Now, automation, in the factory and on the distribution line, is serving to intensify those doubts.

As factory men are generally emphasizing, automation is not new in production. It is merely an intensification of a trend that has been going on for some time. But automation is new in distribution and marketing or at least some of the projected applications will be new. For this reason it is among marketing men that the question of the survival of small business most often arises. Usually, in discussing automation in selling or in any of the new model changes in this so-called revolution in distribution, small business is not mentioned. But in these discussions, there simply isn't any place for small business to exist. The way we are supposed to sell goods in the future—the only way it is supposed goods can be sold—just doesn't leave any room for small business. You have to be big, very big, to live in this bright new business world we have already started to live in.

It must be said that these marketing men make a strong case. Among the executives of the big advertising agencies, and of the sales department of the great corporations and through them, big corporation management, big corporation directors and big bankers, this way of thinking is becoming as fiercely positive as an ideology.

We must admit that the union of big advertising agencies, big mass communications, big retail combinations, and big manufacturers form an increasingly dark cloud over the living space of small business. Big television networks with expensive programs can't use small business. Largely, and increasingly for this reason, supermarkets and mass retailers have increasingly less time for small business.

Small business, from the viewpoint of Washington, means anything up to five million dollars in sales annually. Actually it is little business, up to one million a year in sales, which makes up the great majority of these enterprises. And, it is little business that increasingly, year by year, finds new areas of living space denied to them by forces which can simply overwhelm them.

This makes, to be sure, a pretty gloomy over-all picture for small business. It probably is not as gloomy as all that. But it does seem pretty clear that small business had better keep in its place. There are pastures being added every day with the sign—Small Business Keep Out.

Where are these places where small business had better keep out? In this trade it would seem to be the packaged, trade marked necessity or utility products, capable of large sales volume, mass appeal and mass distribution. This is not yet the exclusive province of big business. But it would be a daring small business man who would venture into this province without some unusual and new advantage.

It is hardly enough for small business to fall into a way of thinking that if they must avoid lush pastures, there are small fields nearby where they will be left undisturbed. One of the very fixed ideas of the new ideology is that there will be no small fields. Everything is being merged into the communal farm. There is no longer a class society but a class-mass market. Fashion is for the masses; everything must be standardized for mass sales volume, for mass national distribution, for the national television networks. Automation abhors variation.

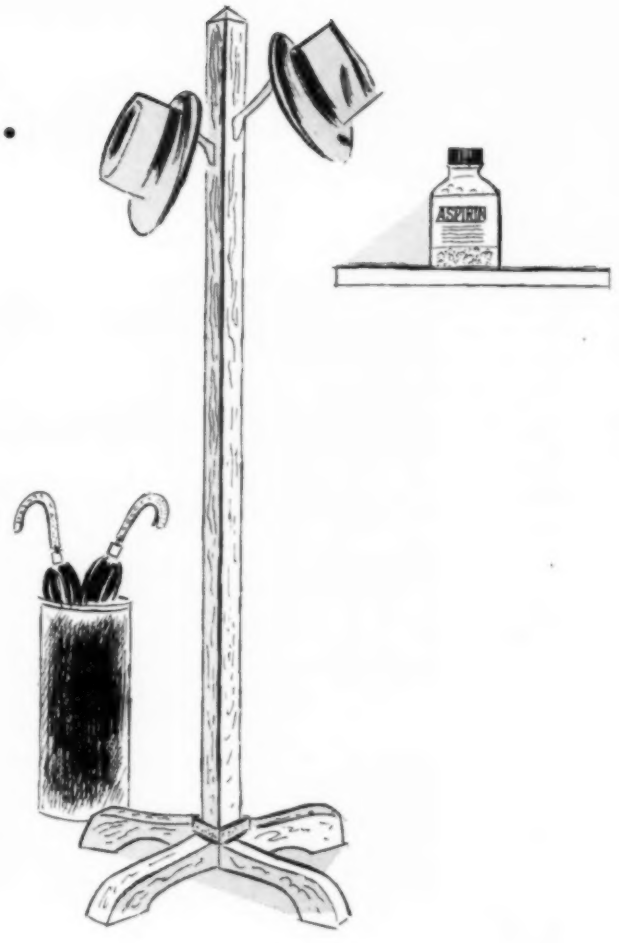
Nevertheless, it seems to us that there is a formula for the continued existence of small business. Although it seems inevitable in our society that big business must increasingly get bigger and increase its total share, a formula for the continued existence of small business need not be one that contemplates any concessions from big business. Rather, in our opinion, the opportunities for small business lies in exploring the weaknesses of big business, and, then vigorously exploiting these weaknesses.

It is generally believed that big business has heavy advantages in research, in purchasing, in product control, and in factory production. These are among the troublesome competitive problems of small business but they are by no means, in our opinion, the dominating or deciding problems in competition.

In research, small business has yet to explore the full possibilities and advantages for cooperative research, or of delegating special projects to independent consulting research organizations. Small business must live in a specialized field. In such a field, wisely or fortunately selected, the alert, aggressive and imaginative small business may be as big and as competent as its biggest competitor.

In the factory, the same thinking must apply. The small business has its place in the sun, factory wise in (1) product specialization, which means a minimum of frozen capital for equipment, a minimum tied up in part-time idle equipment and a maximum of production know-how and (2) a geographical location in an important market sector which gives advantages in shipping cost and service to customers. In this industry the small business has the advantage of a number of thoroughly capable private label companies

Small Business...



who can efficiently and competitively take over for the small manufacturer the problems of production and shipping.

But this country has now an economy of distribution. We can produce far more than we can sell. Business, particularly big business, is putting its best brains, its primary call on capital into marketing. It is here that business expects the greatest changes and the greatest opportunities of the next few decades. For this reason, it is in marketing that small business finds the roughest competitive weather, its greatest headaches and limitations.

It is nevertheless true that in this great, complex field of marketing there are numerous opportunities for small business to prosper. This is true in spite of the fact that the dominating characteristic of marketing, as it is developing today, is the abdication by the retailer of most of his former selling functions and the assumption by the manufacturer of most of the selling function. That single characteristic has weighed heavily against the little fellow with capital resources far from measuring up to the multi-million-dollar advertising campaign.

We have listed one advantage which the small company can study and seek to apply, that is specialization. In the market place specialization can take many varied forms.

Product specialization, it should be remembered, is also the goal of big business. Big business wants the specialty which will justify its use of overwhelming capital in advertising, in high speed automatic machinery, in a large national sales force. It would be the reckless small businessman and, without a miracle to help him, the thoughtless small businessman who would venture today into marketing such a product as tooth paste. The small businessman should put up his own sign "keep out" in those fields of mass, utility, functional products acceptable to the retailers of mass distribution. This is now, and will increasingly be the province of the million dollar plus advertising campaign and the race of the big and the swift.

But in each branch of this industry, in medicine, both ethical and proprietary, and in cosmetics there is ample room for specialization in products not so clearly reserved for mass sales volume and mass operation.

Such products may have (1) a seasonal sales variation which makes mass operation less efficient (2) a gift sale predominance, which makes flexibility and versatility an essential factor (3) style or fashion predominance (4) consumption below the level which would support heavy national advertising (5) a class retail appeal, i. e. particularly suitable for one class of retailer such as the department store.

These and other specialized product classifications which fall within the province of the small company mean basically (1) that the consumer market is not quite equal to supporting the one outstanding advantage of the big company, that is available capital to overwhelm competition with saturation advertising and (2) a characteristic such as fashion where constant change, uncertainty and specialized skills make standardization difficult and (3) specialization to meet the special problems and wants of a certain class of retailer such as the department store—an impossible accomplishment for a mass market distributor.

The small cosmetic manufacturer particularly finds this last classification an advantage. The department store is home ground for literally hundreds of small cosmetic and perfume manufacturers. Each year brings many new companies, with each year's quota of established successes. It is the department store which is most receptive to fashion and creative thinking in packaging, to product variation, to new presentations, to gift marketing, to a wide variety of specialized, creative thinking that is every day becoming the essential ingredient of small business success. Furthermore, the department store must eventually resist the current trend to functionalize so

(Continued on page 265)

Eighth Year of the U.S.

by Thomas Cifelli, Jr.,
Patent Attorney
RICHARDS AND CIFFELI, NEWARK, NEW JERSEY

Many will recall that the seventh year of the operation of the Lanham Act was reviewed in these columns. The interest generated by that review indicates the advisability of another look at the Lanham Act.

Most of the material touched upon here is taken from the scholarly work of Dr. Walter J. Derenberg, a leading authority on trade marks in the U. S. A. While his work is of interest primarily to lawyers, nevertheless it does contain a number of items of general interest to the readers of this journal.

As was done in the previous review, we shall follow the classification set up by Dr. Derenberg and consider the various developments in three parts as follows:

Part I: Legislative and Administrative Developments.

Part II: Interpretation of the Lanham Act by the Patent Office and Courts.

Part III: Trade Mark Infringement and Unfair Competition.

PART I: LEGISLATIVE AND ADMINISTRATIVE DEVELOPMENTS

There was no federal legislation in this field during the period under consideration and very little state legislation. Six states, however, did enact statutes which substantially follow the model state legislation bill, the total number of states having such legislation now being 17. Georgia also passed the so-called "Antidilution" statute. This is the one which gives protection to the owner of a trademark against the use of the same or a confusingly similar mark in an entirely different field, that is even against non-competitors.

Contrasted to the little legislative action in this field is the fact that a very important administrative development occurred. Reference is made to the fact that the U. S. Patent Office promulgated new Rules of Practice in Trade Mark cases. In general, these rules streamline trademark procedure and should result in a quicker and less expensive trademark registration proceeding, generally speaking.

The new rules have two provisions which should be of widespread interest in the drug and cosmetic fields. For one thing, applicants relying upon a foreign registration are relieved of the necessity of alleging use in the foreign countries or of filing specimens showing such use. In this connection this new provision adopted the ruling in the case of Ex parte Societe Fromageries Bel, 105 USPQ 392.

Dr. Derenberg does not appear to be concerned that this ruling, making it much easier for qualified foreign applicants to obtain U. S. registrations, may lead to broader substantive protection of the foreign owner in

Trade Mark Act of 1946

cases of litigation. In this connection, he feels that it is likely that our courts would give protection only to those registered marks which have been in actual use in the U. S. or in commerce with our country within a period of at least two years from the date of registration.

The second important change brought about by the new rules is the one which provides that when the sale or transportation of any product for which registration of a trademark is sought is regulated under an Act of Congress, the Office may, before allowance, make appropriate inquiry as to compliance with such act for the sole purpose of determining lawfulness of the commerce recited in the application.

It will be noted that this rule is extremely broad in its terms. If taken literally this rule would seem to give the Patent Office authority to make inquiries not only with regard to federal label approval in wine and liquor cases (which authority the Office has by statute) or in the case of some other regulated products, such as meat products, but might on its face permit the Office to examine any activity the policing of which has already been entrusted to other Government agencies. However, actual experience with this particular provision to date indicates that the Patent Office does not intend to use the investigatory authority under this new rule to review actions of other Government agencies. In the unlikely event that the Patent Office were to duplicate the work of other agencies under this rule, the patent and trademark bar could be counted upon to protest strongly.

PART II: INTERPRETATION OF THE LANHAM ACT BY THE PATENT OFFICE AND THE COURTS

Trademarks and Tradenames

It is still important to draw a distinction between trademarks and tradenames or corporate names in determining questions of registrability. If a mark is used only as a tradename and not as a technical trademark it will not be registered.

Trademark and Grade Mark Use

The Patent Office seems to be stricter than in previous years in distinguishing between trademarks on the one hand and grade or style designations on the other.

It was held in Bunney Bear, Inc. v. Dennis-Mitchell Industries, 104 USPQ 116 (C. P. 1955), involving the term "Tot Traveler" for a child's automobile seat and an application to register the term "Toddler Traveler" for a similar article, that the Examiner of Interferences, in awarding registration to the junior party, had failed to consider the "fundamental question" whether the latter's use was proper trademark use. It was held that the applicant's real trademark was "Bunny Bear" and that its use of the term "Toddler Traveler" was merely use as a style name for one particular item from applicant's catalog and price list. In Ex parte Mishawaka Rubber and Woolen Manufacturing Company, 105 USPQ 73 (C. P. 1955), registration of the word "Pasadena" on the Supplemental Register for women's shoes had been rejected on the ground of likelihood of confusion with "Pasadena Playclothes" (with an illustration of a palm tree) for snow suits, hats, leggings, etc. The specimens submitted showed applicant's house mark "Ball-Band" as its trademark and the word "Pasadena" in smaller letters, as a model or style designation. The Commissioner ruled, after emphasizing that use as a style designation did not, in itself, preclude registration if the mark also served as an indication of origin, that this may be an important factor against finding likelihood of confusion with a previously registered mark. As a result, registration of the mark was ordered. In one of the relatively few cases in which a name, the primary significance of which was that of a shade designation, was held registrable despite that fact, Ex parte Clairol Inc., 105 USPQ 71 (C. P. 1955), the applicant succeeded in registering the word "Ermine" for hair tinting preparations. The Examiner had rejected the mark even for the Supplemental Register on the ground that it was not functioning as a trademark but "merely as a color designation." The Examiner had stated that descriptive wording of this kind should "remain dedicated to the public" and "not enjoy an exclusive use." The Commissioner, in reversing the Examiner, held that the fact that "Ermine" was a color designation used in conjunction with the primary mark "Miss Clairol" was not conclusive and that such designation might be capable of distinguishing applicant's goods, particularly since the word "Ermine" was not necessarily descriptive of a white color as applied to cosmetics and that applicant, according to the specimens submitted, used the term to suggest "a real platinum" color. The Commissioner said:

> "As used, the mark probably does not in fact distinguish applicant's products, but it is believed to be capable of distinguishing, and that

(*Continued on page 205*)

Make-Up Lotions *by Harry Hilfer*

The methods by which the different cosmetic make-up preparations enhance the skin coloring and hide the small blemishes on the face are interesting historically since the development of more modern facial preparations represent a technological advance which parallels the increasing availability of new raw materials. Face powder, for example, was at an early period essentially a rice starch vehicle into which was incorporated a coloration intended to complement the skin color—but which was imperfect. Further developments included a substitution of talc for the rice starch, the introduction of substances such as zinc oxide and titanium oxide as opacifying agents and the use of insoluble pigments as colorants. The convenience of use was further enhanced by the introduction of modern pressed powder and paralleling the development were several different types of vehicles designed further to improve the powder film by causing it to adhere more firmly to the skin and to improve the appearance by causing the film to assume a more homogeneous appearance than was possible with the powder alone.

Many attempts at this type of preparation were offered on the market, but the most successful have been the cake make-up and more recently the liquid make-up lotion. The cake make-up as its name implies was substantially a powder into which was mixed some humectant and lipid-like substance and an emulsifying agent. The whole was ground and then pressed into pans. Application was made by means of a wet applicator which caused an emulsion to be formed on rubbing over the face of the cake. The emulsion film was then applied to the face and allowed to dry. The film so produced was a continuous one and was much smoother in appearance than a face powder film as such. Its appearance on the market and subsequent success caused an upheaval in the buying habits of the consumer at the expense of face powder. It is still quite popular after being on the market for nearly twenty years, but is not now in as general use as it used to be.

More recently, the well-known make-up lotion made its appearance. In this product the water was incorporated as part of the preparation as sold and application is with the fingertips. It is therefore an advance from the standpoint of convenience. Technically there are a larger number of difficulties which had to be overcome as compared with its predecessors, the primary one being the method by which the pigments and fillers could be kept in a permanent (for the expected shelf life of the product) suspension. Advances in the technology of surface active agents and in the synthesis of synthetic gums have made this possible, as well as improvements in the inorganic hydrophilic gel formers.

The make-up lotion is primarily an emulsion which must have incorporated in it the necessary substances to impart its properties. The first important property would be its ease of application, which may be subdivided in turn into several subheadings including ease of spreading on the face and correct drying time, that is the most desirable formula would be one that will not dehydrate in so short a period of time as to interfere with application or in so long a period as to feel moist over too long a period of time; the coordination of opacifier with film thickness so that there will not be too opaque a film or too transparent a film after application. Finally, the formulation should consider the optimum viscosity of the preparation. This latter property is important since convenience of use is one of the principal attributes of the preparation and would therefore be unsatisfactory if so thick that it did not readily pour from its container or so thin that it did not readily keep its position on the hand.

Bearing these properties in mind we may have a fair idea of what substances should be incorporated in order to produce these properties. The emulsifier of course becomes important at an early stage of development since an emulsion is required. This choice must be tempered by the fact that a considerable amount of pigment and opacifier must also be incorporated and suspended. To aid in this suspension some bentonite or other hydrophilic gel former is usually added and this exerts a thicking effect on the suspension as well. Most of the products on the market depend on triethanolamine stearate as the emulsifying agent in conjunction with stabilizing emulsifiers such as glyceryl monostearate. Further pigment suspending properties may be incorporated by the use of a gum, usually one of the synthetic cellulose derivatives, which have good suspension properties. Indeed, some of these are used in washing compounds to prevent redeposition of the soil on clothing during the washing cycle. They perform a similar function in this system.

The ease of application of the preparation is influenced greatly by the speed with which the film dries. Since there is a relatively small amount of water present in the emulsion, the film would ordinarily dry too quickly for proper application. This tendency may be corrected by the use of a humectant which would materially raise the boiling point and lower the

COURTESY GERMAINE MONTEIL

vapor pressure of the aqueous phase. The addition of a humectant chosen from substances such as glycerol, the polyethylene glycols, propylene glycol or sorbitol, to mention a few, is necessary. The choice will be influenced by the effect it may have on the emulsion as well, since many of these compounds may increase stability rather than decrease it. No prognostications can be made as to which humectant would be best, however, since this varies with the formula.

In order to assure the type of smooth finish expected from a preparation of this type some oil is included in the emulsion so that the dehydrated film may be continuous. The oil further acts as a water repellent to a certain extent, since an emulsion containing only a humectant and emulsifier would be easily removed by the slightest amount of perspiration or other aqueous contact. Generally speaking, the oil phase of the emulsion is approximately equal to the pigment and powder concentration. This is not an absolute rule but the film produced under these conditions seems to have the desirable characteristics. The oils themselves may consist of any of a large number available. Mineral oil is usually the most common but lanolin may be used in conjunction with it as well as some of the lower viscosity esters such as isopropyl myristate.

The powder phase consists essentially of an opacifier and pigments. The concentration of the powder must necessarily be limited by the ability of the emulsion to support it in suspension. Titanium oxide, which has the greatest opacity of the commercially available products is in most general use. This choice is dictated by the relatively small amount of titanium dioxide needed to achieve a given opacity as compared to calcium carbonate for example. The inorganic gel formers such as bentonite exert a thickening effect on the emulsion as well, and this factor must be considered in arriving at the final desired viscosity. From purely theoretical considerations the inclusions of other fillers in addition to the opacifiers would make the suspension problem all the more difficult.

In manufacture, the powders and colors are first mixed and then ground. If possible any shade corrections should be made at this point, since the powder-oil-water balance may be upset by subsequent additions. A convenient method of doing this would be

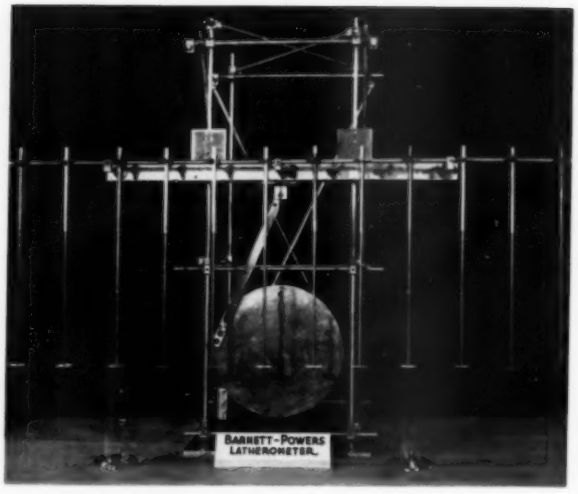
(Continued on page 273)

Measuring Shampoo Performance*

by G. Barnett and D. H. Powers

WARNER LAMBERT PHARMACEUTICAL CO., INC.

Any evaluation of shampoo performance depends on a clear understanding of what is expected of the product. Florence Wall[1] suggested that a good shampoo should cleanse the scalp thoroughly without stinging or irritation; it should not remove too much of the natural oil from the scalp. Zussman[2] suggested that the success of a shampoo lies in the fact that it is not only a detergent, but a cosmetic as well; it must impart luster, beauty and manageability to the hair. Barnett and Powers[3] in their earlier paper suggested that the cleansing power of a shampoo was of secondary importance and that a good shampoo should leave the hair fragrant, lustrous, soft and manageable. Ester, Henkin and Longfellow[4] emphasized that a shampoo must not remove an excessive amount of natural oil. *Good Housekeeping* found that women wanted a shampoo to clean and rinse out easily, give the hair gloss and leave it manageable and be non-drying. Harry[5], in the new edition (1955) of his volume on *Modern Cosmetology*, vaguely defined a shampoo as a preparation that will remove surface grease, dirt and skin debris from the hair shaft and scalp without affecting adversely the hair, scalp and health.



Definition of a Shampoo

In the light of these definitions, it is suggested that a successful shampoo is a product with *some cleansing and some foaming action which leaves the hair soft, lustrous and manageable.* A successful product should give these effects under the wide variations of normal conditions of use, which probably range from temperatures of 60°F. to 100°F. and at times of 5-30 minutes in hard or soft water.

In this definition a shampoo is characterized as having five main properties which contribute to its performance, acceptance and repeat sales. These properties are:

Foam
Cleansing Action
Softening Effect
Luster
Manageability

and they can be measured by panel or laboratory tests and by personal use, performance or service tests. Clearly, for product evaluation, a reproducible laboratory test is far preferable to a personal use test, as the

*From proceedings of the Scientific Section of the Toilet Goods Association, No. 24, December, 1955.

TABLE I
Effect of Time of Plunging on Foam Volume

3 Per Cent Active Detergents in 500 ML. 175 Ppm. Hard Water	Foam Volume (ML.)				Volume of Water in Foam after 5 Min. Plunging (ML.)	Per Cent Water in Foam after 5 Min. Plunging	Volume of Foam after 15 Min. at Rest (ML.)
	1 Min.	2 Min.	3 Min.	5 Min.			
Potassium Coconut-Oleate Soap	23	34	44	60	10	17	21
Sodium Alkyl Sulfate	47	60	94	143	30	21	114
T. E. A. Alkyl Benzene Sulfonate	49	57	70	120	18	15	92
Ammonium Polyoxyethylene Alkyl Sulfate	31	57	70	78	15	19	60
Sodium Alkyl Phenoxy Polyethoxy Sulfonate	31	42	55	73	5	7	52
Protein Fatty Acid Condensate	65	92	130	182	35	19	140
Polyhydroxy Amine Fatty Acid Condensate	31	44	60	78	20	26	60
Alkyl Imidazolinium Sodium Carboxylate	47	49	57	68	12	18	52
Polyoxyalkylene Glycol	31	52	68	73	12	16	70
Polyoxyethylene Sorbitan Monolaurate	0	5	5	8	0	0	0
Alkyl Dimethyl Benzyl Ammonium Chloride	36	47	52	70	15	21	0

laboratory test may be completed and rechecked in a day or two, while a personal use test varies from person to person and should be applied to several hundred people and then statistically analyzed. A reliable and accurate laboratory test is precise and may be repeated at will and can be tabulated exactly. In evaluating the performance or use of a shampoo, tests on hundreds of women (no two heads are alike) give only a general impression, with no degree of accuracy or precision. A single properly-planned laboratory test can measure how effectively a shampoo cleans or foams and how its action is affected by time, temperature and concentration. It should be re-emphasized: a personal use test follows the procedure by which a product is used, but it is neither reproducible, precise nor accurate. Use tests on human heads should be applied to hundreds of heads to correct for the variation from head to head. Good laboratory tests have the tremendous value of being precise and controllable, but great care must be used in evaluating and estimating the significance of their value. We are faced with inaccurate tests in actual use conditions or accurate tests on some planned phase of actual use.

Laboratory Test Methods

Accepting this definition for a successful shampoo and recognizing the greater value of a reliable laboratory test, we have set up a test for measuring the total cleansing action of soap and synthetic detergents and commercial shampoos by the Barnett-Powers Detergency Method[3]. This work was later amplified to include studies in soft, hard and extremely hard water, such as sea water[6]. It was clearly emphasized in these papers[11] that these laboratory methods only measured cleansing action, which had not been previously studied. The authors agreed then and agree today that total cleansing action is not the complete measure of shampoo value, but a better understanding of the service performance of a shampoo is gained by measuring in the laboratory its cleansing action. In this paper, an extensive study is made of the foaming or lathering action of detergents and commercial shampoos, and here again it should be emphasized that the laboratory measure of foam by the Lather-ometer is not the complete measure of shampoo value

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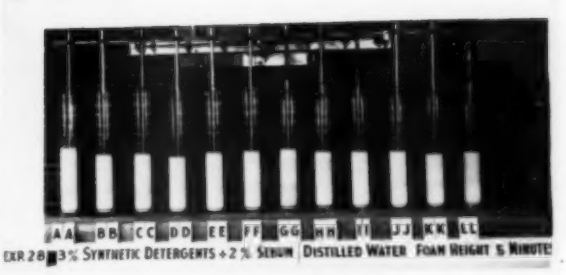

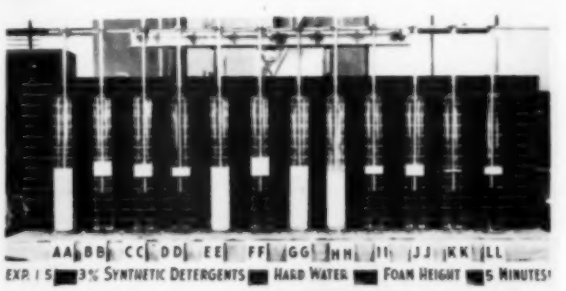

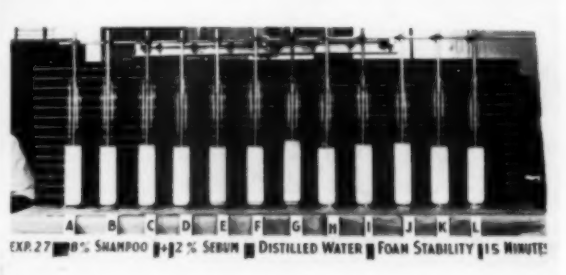

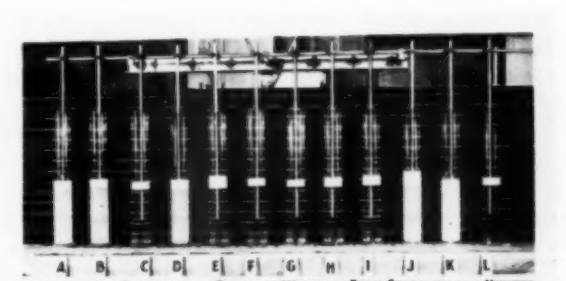

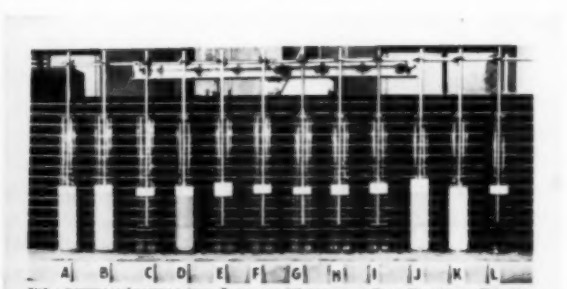

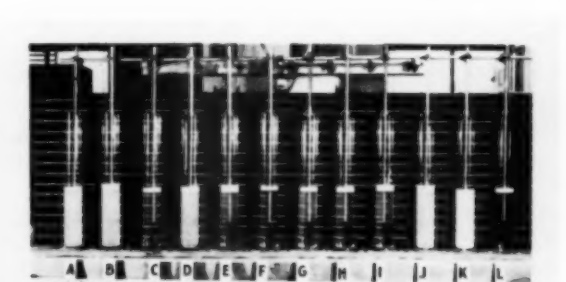

LIQUID ROUGES

by Joseph Kalish, Ph.D.

Sales of cake and cream rouges have been lower in recent years and are still falling off; this phenomenon is related to the large increase that has taken place in the use of heavily pigmented make-up bases—first the cake make-up preparations and more recently the creams and lotions. Since the make-up foundation is heavily pigmented and has considerable hiding power, the rouge must usually be applied over the foundation, and powders and creams or pastes are difficult to apply without smearing.

So-called liquid rouges, for the most part liquid cream rouges, have enjoyed increasing popularity and now account for a large portion of the rouge market. This popularity has been earned by the ease with which they can be applied, under almost all make-up circumstances, to give a desired effect. Liquid rouges can be applied directly to the skin and smoothly shaded off; more important, they can be applied to the make-up foundation even when the latter is still not completely dry to make a desirable color blend.

Although preparations now available are good ones, and use newer raw materials, the conception is certainly not a new one. Liquid rouges, as solutions, suspensions or as pigmented emulsions have been made in the past, but in the absence of a specific need that warranted the expenditure of substantial promotion money, their market impact was limited.

The liquid lip rouge that enjoyed a certain vogue a number of years ago consisted of alcohol-soluble dyes, dissolved in alcohol along with a water-insoluble film-forming substance like ethyl cellulose. A plasticizer, such as castor oil, was included to make the film flexible. The film left on the skin certainly possessed an unusual degree of permanence, but otherwise left much to be desired. First, the concentrated alcoholic solution tended to be irritating to sensitive lips; the film itself was inclined to be dull rather than lustrous; the color range was not as great as could be desired; finally, the film could be removed only with a solvent such as alcohol, and the combination of friction and solvent was irritating.

Nevertheless, a solution, modified for facial use, should be useful. Such a preparation would consist of suitable water-soluble, skin-staining dyes dissolved in a mixture of water and other solvents. At this point it may be useful to mention as a reminder that in aqueous or non-oily solvents the choice of skin-staining dyes is by no means limited to eosine or others of the halogenated fluoresceines; there are others in the F.D.&C. group of colors that can be definitely useful in modifying the shade of the stain, especially when the lasting stain required for lip use is not needed. The solution needs to be thickened, of course, so that application will be more convenient, and this can be done by the addition of sorbitol, propylene glycol or glycerine, but the proportion of additives of this type should be kept low enough so that the preparation will dry in reasonable time.

Suspension-type pigmented preparations offer much

COURTESY HELENA RUBINSTEIN

more freedom with respect to ingredients of the formula than do the solutions, and are probably more acceptable from the consumers' point of view in that they are opaque rather than transparent preparations. Lakes and pigments insoluble in water, and especially white pigments and diluents such as titanium dioxide and colloidal clay, add a great deal to the possible range of shades. Incidentally, for uniformity in shade from batch to batch the dry pigment mixture should be matched and adjusted against the standard and then mixed in the proper proportion with the rest of the ingredients. Attempts to adjust the shade of the finished suspension will almost always result in shade or consistency variation. The pigments should not only be finely divided in their original form but they should also be ground together after mixing, when possible, to assure most intimate mixing and freedom from spots and streaks. White materials, either transparent or with good covering power, have a substantial effect upon shade as well as intensity of color and this property can often be utilized advantageously.

The suspending vehicle used with the pigment mixture will not be necessarily simple, since the suspension itself will often show a number of complex properties. A wetting agent, usually nonionic, should be included to permit easy incorporation of the solid pigments in the liquid vehicle; with the same proportion of solids, the consistency of the mixture may vary from completely fluid to a consistent paste, depending upon the proportion and kind of solids. With a thickening pigment, it may be advisable to use lecithin or another dispersing agent to permit the incorporation of a large enough proportion of pigment and yet retain fluidity. The wetting and dispersing agents are helpful in preventing the pigment from settling to a hard cake that can be redispersed only with difficulty if at all. Gums, synthetic or natural, are the primary suspending agents and the choice here is fairly wide. Curiously enough, the suspending power of the gum is not necessarily related to the viscosity of its solution: in a series set up for test, we found that at approximately the same viscosity, vehicles made with larger proportions of the lower viscosity grade of a certain synthetic gum had the best suspending action. Suspending power was much power with smaller proportions of the high viscosity grade. Modified bentonites, which make the suspension thixotropic, are good additions to suspensions, but their value may be limited by the size of the container. Surprisingly small additions of these substances make suspensions that are very thick when

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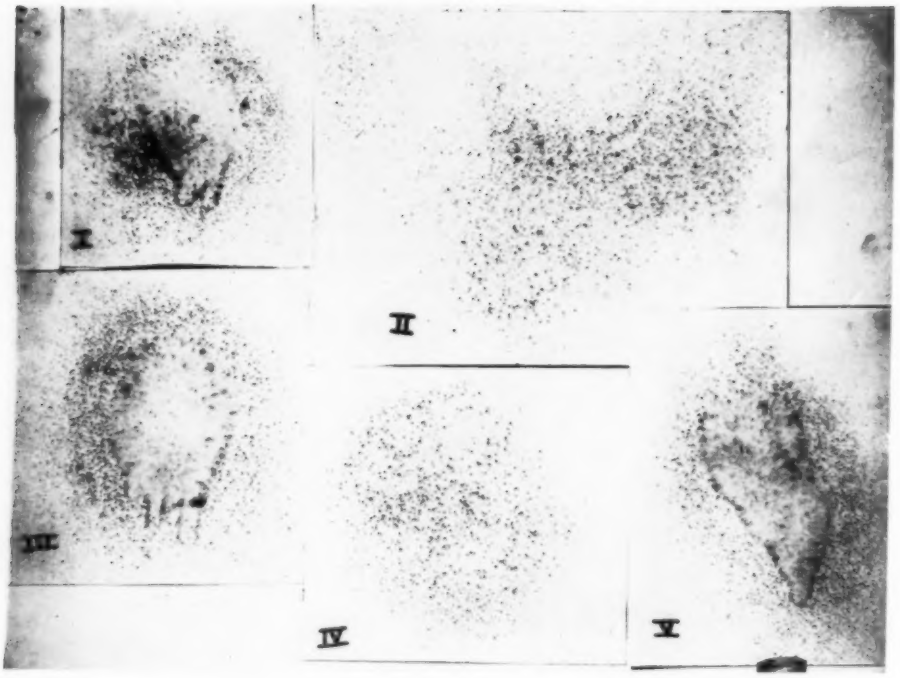


AEROSOL SPRAY

Aerosols as scientifically defined are any particles or bodies suspended in air or gas for a period of time. Such aerosols can include everything from dust to three-foot boulders. A recent aerosol study on atomic explosions did cover just such a disparity in materials. Aerosols can be man made, by means of the spray products with which we are all familiar, or God made, such as fog, smoke and clouds. I don't know under which of these two categories smog would come.

In speaking of aerosols we will restrict ourselves to the industry's definition which is "a self contained spray or foam product in which the propellent force is supplied by a liquefied gas." In this discussion we will restrict ourselves to the spray products.

A spray is a zone of liquid droplets in a gas, usually air, and spraying is the act of breaking up a liquid into a multitude of these droplets. This zone of liquid droplets can be anything from Niagara Falls to a wisp of steam and, therefore, the need for classification and measurement.

The purpose of spraying a liquid is to make particles airborne, to make evaporation faster or to increase surface area that can be covered per volume of liquid.

Settling of particles from 100 microns down to three microns obeys Stokes Law. Particles under three microns and down to 0.1 micron follow Stokes-Cunningham Law. Brownian Movement is superimposed on gravitational settling with particles under three microns and becomes predominant with particles under 0.1 micron.

To get a better understanding of what these particle sizes mean the following are some approximate diameters of familiar mists and dusts:

Rain	100-4000 microns
Oil Spray (Burner)	100 microns
Atmospheric Fog	2-15 microns
Tobacco Smoke	0.2 microns
Aerosol Spray Products	1-100 microns

The surface area per unit volume of a sphere is given by 6/D where D is drop diameter, therefore, in going from droplets 1 mm. in diameter to ten microns in diameter, the surface area per unit volume is increased 100 fold. Since evaporation is directly proportional to surface area we can understand how evaporation is accelerated by spraying.

The increase in surface area that can be covered with a given volume of liquid can perhaps best be shown by considering 1 ml. of material which if sprayed into droplets 10μ in diameter would result in 20,000,000 such droplets. We won't go into why we can cover more surface with 20 million particles than with one. Any youngster can do this rather dramati-

cally with an aerosol paint product.

With toilet goods aerosol products such as personal deodorants and antiperspirants small particles are desirable so that large coverage can be obtained with a small volume of liquid and so that drying will be rapid. With household deodorants and insecticides the particles should also be small so that they will be airborne. On the other hand in the case of hair lacquers, suntan preparations and insect repellents, airborne particles are not desired and drying can be slower.

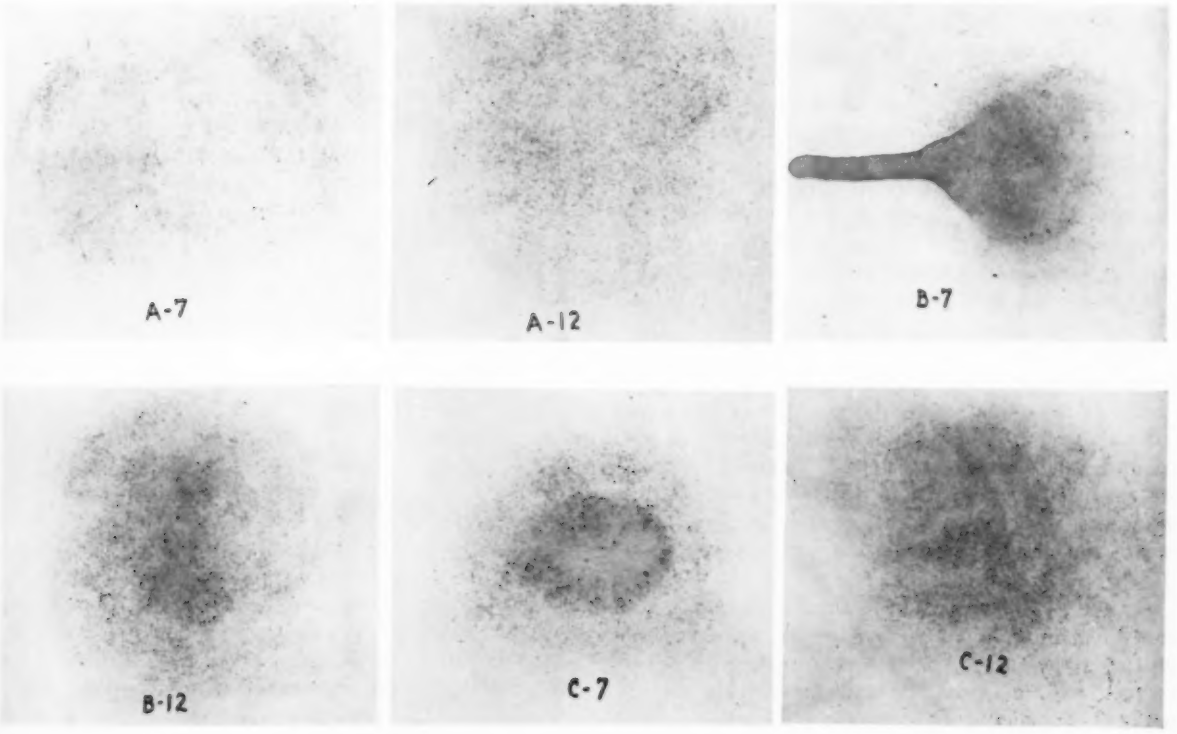
An aerosol spray can be characterized by the droplet size and distribution, area of coverage, and its wetness and liquid volume. Because distribution of sizes differs from one section of spray to another as well as at different distances from the nozzle and since drops may shatter, coalesce, evaporate, or condense during sampling, it is almost impossible to make a precise measurement of the size distribution and total surface area of a spray. One method that has been used with some success (Yeomans and Rogers[1]) depends upon collecting the particles on a slide and sizing and counting the particles under a microscope. This method is time consuming and tedious.

Rapid sizing methods depending upon some measurable quantity which is a function of drop size, such as settling or inertial velocities and light scattering, have been suggested by Battelle Memorial Institute (Cascade Impactor) (Pilcher[2]) and Armour Research Foundation (Aerosoloscope) (Fisher[3]), respectively. Neither of these methods has been standardized for aerosol sprays and can be considered still in the stage of experimental development. Since the functional relationship is always complex with such methods, analysis of such data is always difficult.

For the above reasons it was necessary to devise a practical method which could give a picture of the spray that could be readily analyzed and kept for future reference and comparison. The technique which has been found useful in determining spray characteristics involves the use of oil soluble and water soluble dyes. With this technique it is possible to obtain spray patterns which are a function of the droplet size and distribution, area of coverage, and the wetness or liquid spray volume. The dye is mixed with talc in the ratio of about 20 parts of talc to one of dye and brushed onto a 67-pound Vellum paper. The aerosol is then sprayed onto the paper for a fraction

PATTERNS

by Morris J. Root, TECHNICAL DIRECTOR, G. BARR & CO.



of a second in a closed chamber from a fixed distance, usually six to twelve inches. With an alcohol type product, the water soluble dye, DuPont Crystal Violet Powder is used. With an oil product such as an insecticide, an oil soluble dye, DuPont Oil Red Powder must be used. Patterns obtained with the Crystal Violet Powder can be saved indefinitely as long as they are protected from moisture. Patterns obtained with the oil dye must be photographed within a few hours because of the gradual spreading of the oil and dye on the paper.

Figure I shows the spray pattern obtained with four different types of glass bottle valves. The following are the sizes of the internal or metering orifices and button orifices of these valves.

I 0.010 x 0.010 metering orifice; 0.020 button orifice.

II 0.020 metering orifice; 0.016 button orifice, three-phase.

III 0.020 metering orifice; 0.018 button orifice.

IV 0.013 metering orifice; 0.018 button orifice, reverse taper.

V 0.0135 metering orifice; 0.017 button orifice.

Patterns II and III of Figure 1 are made with the same valve but with different buttons. This particular product is an antiperspirant with 35 per cent propellent and a pressure of 20 lb./sq. in. at 70° F. It is easy to see the difference in the spray characteristics of the different valves. It is quite obvious that the wetter sprays are obtained with valves I, III and V. Valves II and IV have the finest and driest type of spray. An indication of the area covered by the spray can also be obtained from these charts. Valve II covers a larger area than valve IV. The button on valve II is known as a three-phase button and, because of the centrifugal action in the button, gives a wide-angle spray.

Another experiment illustrates the variations in spray patterns obtained by merely changing the button. The spray patterns were made with a hair lacquer containing 30 per cent concentrate and 70 per cent propellent. The pressure is 20 lbs./sq. in. at 70° F. The same valve was used for all three spray patterns. The button used on spray pattern A gives a fairly wet spray, B gives a drier spray and C gives an even drier spray but covers a smaller area.

The next series of pictures in negative shows the variation in spray pattern obtained at two different distances A-7 and A-12 show the spray patterns obtained at seven inches and 12 inches. The area covered at both distances is about equal and the spray pattern is quite dry. B-7 and B-12 show the spray patterns obtained with the same valve but with a different propellent mixture. These spray patterns indicate a much wetter spray at seven inches than at 12 inches. The spray obtained with the second propellent mixture at 12 inches, however, is not as dry as the spray with the first propellent mixture at 12 inches. C-7 and C-12 show the spray patterns obtained with the second propellent mixture but with another valve, also at seven and 12 inches. The spray pattern C-7 shows a finer spray pattern than B-7; therefore the spray pattern can be made finer with a given propellent by a change in valve. Spray pattern technique, as can be seen from these photographs, is also useful in determining the spray area at different distances.

The photograph of the side view of a spray was taken by means of a strobe light with a duration of 1/10,000 second. At this photographic speed the action is actually stopped and the individual particles can be seen. The particles close to the nozzle are elongated due to the velocity of the spray. A photograph of this type is valuable for determining the general characteristics of the spray, and in combination with the dye technique described, give a complete visual record of the spray pattern.

In spray formation, the liquid is forced up the dip tube by the pressure in the can through an inner orifice in the valve. It is usually at this point that the valve is opened. In the expansion chamber, just above this orifice, some of the propellent evaporates causing droplet formation. The gas-droplet mixture is then compressed in a chamber in the button and then passes through an orifice in the button out into the atmosphere where further evaporation of the propellent takes place and more particles are formed. In one type of valve there are two inner expansion chambers, which results in an even finer spray than is possible with one expansion chamber.

Besides difference in valves and buttons it is possible with the spray pattern technique to show the effects of other variables.

Type of Propellent

With the higher vapor pressure propellents such as Freon® 12 or Genetron® 12 (dichlorodifluoromethane), the particle size is smaller and the spray is drier than with the lower vapor pressure propellents Freon® 11 or Genetron® 11 (trichloromonofluoromethane). A higher pressure gives a finer spray par-

(Continued on page 263)

What's New in Plastics for Packaging*

by P. J. Murphy

DISTRICT SALES MANAGER, MILLSPLASTIC DIVISION, CONTINENTAL CAN CO.

Formed Plastic Containers. First, I would like to mention briefly what are sometimes called formed plastic containers. This is the type of plastic container that is made by vacuum forming and more lately by a pressure forming method. Materials generally used are sheet and roll form vinyls, polyethylene, cellulose acetate, buturate and polystyrene, in a thickness of about .010". Packaging materials thus formed are boxes, cups, tubs, tubes, blisters, compartmented units, closures and containers for articles of almost any contoured shape. In addition to the more conventional type containers, unique package designs can be achieved by drawing these materials directly around and in close contact with the article to be packaged. Skin-tight packaging—almost invisible—has been achieved. Vacuum forming has made it possible to draw the transparent plastic down and around articles that are pre-mounted on die cut cards and then placed in the forming press. The result is a tough, transparent, tamper-proof package ready for shipping and display. Die costs are comparatively low—$50.00 per square foot is a good rule of thumb figure. The automatic and semi-automatic presses that are now available provide practical plastic packages within an economical price range. This type of container and this method of packaging could be particularly adaptable to medicinal and pharmaceutical sampling and the packaging for display or proprietary items. It is certainly one of the newer phases of plastic packaging that should be investigated and watched closely. I am sure it may have some application in the field of pharmaceuticals.

High Temperature Polyethylene. There has been a lot of premature publicity concerning what I call the high temperature polyethylenes, sometimes called, low pressure or the Ziegler type. Recent announcements have brought attention to this interesting material and an industry race seems to be on to see who will cross the line with it first. Some of the producers have publicly announced their activities and pilot plant lots have been made available to the research people of the packaging industry.

Based on our research activity with this material at this stage, we can say a few words about it, but all statements must be proven in actual production. We have found it to be a more rigid material and this characteristic will permit molding bottles, for example, at lower weights which should lead toward lower bottle costs if the price per pound and yield is comparable to standard polyethylene. Because the material is more rigid it will not be as acceptable for dispensing from plastic bottles when squeeze action is required.

The rate of permeation through this material has been found to be lower but experience to date would indicate that the improvement in this respect is still not enough for most of the permeant products that are not now packaged in polyethylene bottles because

*Delivered at American Pharmaceutical Manufacturers' Association Mid-Year and Eastern Section Meeting, New York, December 12-14, 1955.

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for better sealing—

Crown's long experience in the science of sealing, its exceptional skill in precision manufacture and its careful maintenance of correct tolerances are your assurance of trouble-free application on your containers. A wide variety of liner materials, many of which are exclusive with Crown; a tremendous store of data on the suitability of various liners for specific products; and unsurpassed Customer Laboratory Service are other reasons why it pays to make Crown your "sealing headquarters."

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Crown maintains two laboratories. One for research and development, the other as a customer's consulting service. The services of the latter are available without cost to help packers select the closure and liner best suited for their individual products.

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Crown Closures give consumers all the protection they expect . . . the kind of convenience they want. These caps are easy to remove . . . easy to replace . . . make a perfect re-seal over and over. In order to help your product sell on the store shelf, Crown's Art Department will assist in creating an attractive, attention-getting design for your closures.

DESIGN SERVICE

Customers of Crown may use without cost the services of a comprehensive design service. New designs will be created or adapted from present labels or trademarks.

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World's Largest Maker of Metal Closures

of the high rate of permeation.

The high temperature polyethylene will have a softening point at least 30° higher than standard polyethylene. This is high enough to permit autoclaving, and this, I am sure, will be of particular interest to you manufacturers of medicinal and health supplies.

As yet, I have not seen a high temperature polyethylene container molded with the same optical clarity that we obtain with the standard natural polyethylene. Pigmentation is still required and time has not permitted us to determine the effect of the pigment and catalyst on products that might be packaged in containers made of this material.

Because of the many questions yet to be answered, the publicity announcements on this material several months ago, may be considered premature. Nevertheless, daily progress is being made and this material in production quantities should be available to molders by the last half of 1956. It will have many characteristics desirable for pharmaceutical containers and certainly it is one that should be watched closely by those in the production end of your industry. It will find a great many end uses in plastic bottles, tubes, vials, films and injection molded containers.

Plastic Tubes. Plastic tubes, the type that are competing with the conventional metal collapsible tubes, are now in the same stage of adolescence that the plastic bottle was seven or eight years ago. The plastic tube is having a very interesting childhood and is destined to grow into a very active adult with a good position in the field of packaging materials. New manufacturing techniques and more versatile materials are helping the tube find its position in packaging almost as fast as the plastic bottle. Already, three or four different manufacturing techniques have been tried. The first and oldest is the injection molded tube which has found very limited acceptance. Then we had the blow molded tube which was made in a manner similar to the blow molded bottle and this, too, had very limited acceptance. We also have the Bradley polyethylene tube which appears to have met with some success in the short time it has been on the market. Now we have the Wallace tube which is a versatile tube made by techniques and plastic material combinations not yet completely revealed. The Wallace tube is not limited to one material. It is made by a process of continuous dipping and by this process we are able to make a multi-wall or single ply tube of one or a combination of plastic materials. By this method, it is possible to make a tube body consisting of the outer wall plus whatever plastic liners are necessary to hold the product. This tube has not been released for general sale. It is being sold on a selective product basis that is coordinated with a production development program.

A few years ago, one of the major problems with tubes was the difficulty of making a satisfactory heat seal of the open bottom end after filling the tubes with the product. Sealing the open ends of tubes is no longer the problem it was. I have seen tubes with heat welded ends that were strong enough to stand the abuse of a good sized man jumping up and down on them. The plastic tube has grown in stature to the point that machinery manufacturers have recognized them as a good potential packaging item. Conventional tube filling machines have been adapted to plastic tube filling. Heat sealing units can be adapted to the conventional tube fillers. Of the new plastic containers to appear in recent years I would say that the plastic tube has the greatest future growth potential, and, it is a plastic container that should be of particular interest to manufacturers of pharmaceuticals.

(Continued on page 258)

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. . . if you have an aerosol product
. . . if you have an aerosol project
. . . if you have an aerosol problem

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HELP YOU . . . Tens of millions of successfully selling aerosols are custom formulated and/or filled by G. Barr & Company for many of the nation's leading concerns. These are testimonials of leadership . . . earned through outstanding aerosol research laboratories . . . creative product development . . . meticulous quality control . . . effective production economies. And . . . G. Barr & Company markets no products of its own.

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Address inquiries to: 3601 S. Racine Avenue, Chicago 9, Illinois

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Container Development for Toiletries*

by Albert R. Jasuta

CHIEF, PACKAGING UNIT, BRISTOL-MEYERS RESEARCH AND DEVELOPMENT LABORATORIES.

The toiletries industry has the reputation of being more package conscious than most other industries. However, in too many instances elegance has been stressed to the neglect of other equally important considerations. Too often these other considerations were left entirely to the supplier. There were times he did a good job, but there were other times he overlooked something. Then came the rude awakening. That pretty package was worthless because it failed to deliver the goods.

It is axiomatic that your product outsells your competitor's because yours has plus factors. A package can provide that product with plus factors or load it with pitfalls. To insure getting these plus factors requires a lot of thought and testing and constant comparison with packages of competitors.

Considerations in Packaging Selection

The container is a product's clothes. It has to provide warmth, good styling, and a good fit. It must also wear well and satisfy your budget. When you select your container make sure that it:

1. Gives adequate product protection and preservation.
2. Is compatible with the contents.
3. Has appearance and display value that are satisfactory.
4. Provides utility and function.
5. Has all the safety factors.
6. Meets container regulations.
7. Fits the budget.
8. Is well adapted to handling at your plant.

The matter of protection and preservation is basic. The product that was so acceptable when manufactured should be just as acceptable when used by the consumer. Three points bear watching:

1. Chemical change (reaction with the container, product deterioration, etc.).
2. Physical change (product evaporation or leakage, contamination, change of physical form).
3. Other changes (microorganisms, pests, rodents).

Compatibility is the converse of the preceding topic. The container must not be adversely affected by the product.

Display and appearance are musts in marketing. The container should carry a sales message and be attractive to potential buyers.

Utility and function of a container mean that:

1. It must provide a convenient means of using and dispensing the product.
2. It must be easy to fill.
3. It must be able to stand up under conditions of handling, storage, and transportation.

Safety calls for the absence of hazards. An aerosol

Fig. 1—The drop tester provides impact shock to packages.

Fig. 2—The vibration tester is a moving table which simulates the motion and amplitude of vibration encountered in freight cars and motor trucks.

Fig. 3—Determining the adequacy of heat seals on foil laminate packages with the vacuum leak tester.

*From proceedings of the Scientific Section of the Toilet Goods Association, No. 24, December, 1955.

NEW PROCESS debosses decoration on the skirt of your molded cap!

Look at this beautiful cap, sparkling with stars. It's an example of exciting new possibilities now available in molded cap design. An amazing molding process being pioneered by Armstrong reproduces on the skirt of a molded cap debossed designs never before possible. Names, trade-marks, figures, floral designs . . . all can be debossed on the skirt. Even surfaces like wood and leather can be simulated *in perfect detail.*

Find out today how much beauty this completely new molding technique can add to your package. Phone your Armstrong man or drop a line direct to Armstrong Cork Company, Glass and Closure Division, 5301 Chester St., Lancaster, Pa.

Armstrong MOLDED CAPS

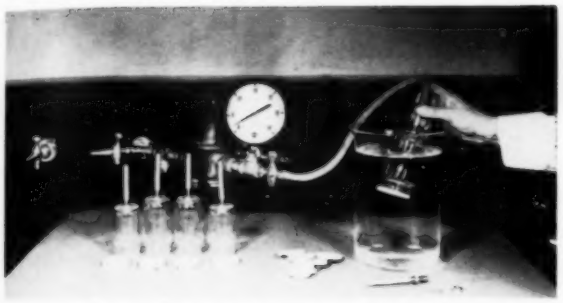

Fig. 4—Testing vented caps with the air pressure tester. (In actual practice as a safety measure a stainless steel beaker is used.)

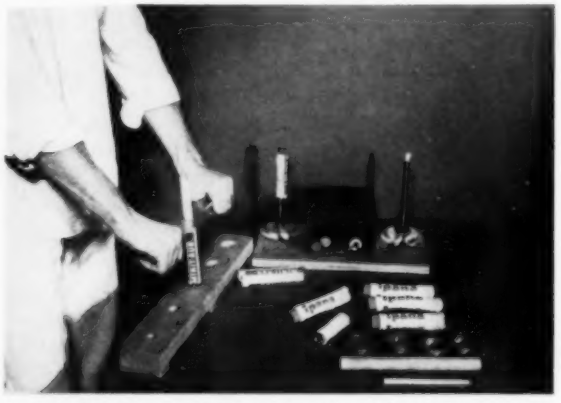

Fig. 5—Tubes being "accordion pleated" with the tube crusher. Inspection lights are in the background.

container must not be a bomb, nor should a glass bottle split in pieces with the removal of its cap.

Container regulations are promulgated by both government and carriers. Those of the former include rules of Interstate Commerce Commission, Coast Guard and Civil Aeronautics Authority plus state and local statutes. Carrier regulations are those of the Consolidated Freight Classification Commission and of the Motor Freight Commission.

In order to ascertain that the package fits the budget, costs must be developed. We make a comparison in terms of unit weight or volume. The factors of costs are: container (material), finishing, shipping and freight, handling, capital equipment. It is prudent to watch package costs. They may price a product out of the market.

In considering any package, it should be a cardinal rule to check with your plant people. They have to live with the package once it is selected. Good teamwork calls for giving them a chance to ready equipment and methods.

Package selection problems require solutions that are practical and realistic. It is well for us to keep in mind that it is possible to overpackage as well as to underpackage.

Setting Up for Container Development

The two basic factors in container development are men and facilities. Here are the qualifications to look for in personnel:

1. A college education stressing packaging technology, chemistry or chemical engineering.
2. Imagination and inventiveness.
3. An appreciation of economics.
4. The ability to get along with people.

It is, I think, in the interest of efficiency to centralize container development. Scattering the function usually results in a diluted and misdirected effort and in delays. Packaging technology, like so many other technologies, has advanced beyond the reach of the Jacks-of-all-trades. It is better handled by the specialist. As for facilities, I cannot anticipate your specific needs. However, I will tell you about what we now have at the Bristol-Myers Company.

Climate Rooms

We are fortunate in having several walk-in climate rooms. They are:

1. 0°F.
2. 32°F.
3. Room Temperature.
4. 100°F.—80 Per Cent Relative Humidity.
5. 104°F.
6. 104°F.—70°F. cycle room.

In addition we also have one variable oven and a jumbo oven which we maintain at 130°F.—hot freight

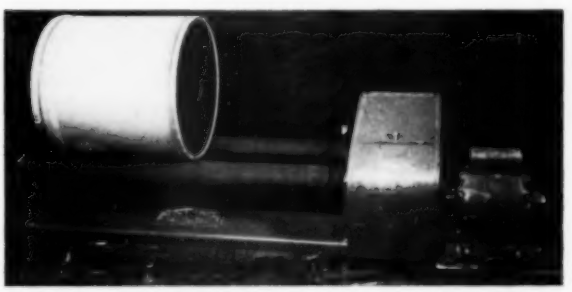

Fig. 6—Tumbling apparatus improvised from a roller mill and a fiber drum. Note window cut in drum.

Fig. 7—Polaroscope—for spotting strains in glass containers and in certain transparent plastic pieces.

car temperature. We also have an ultra violet cabinet and a sun exposure cabinet.

The climate facilities are used in determining the compatibility of the container with the product. The high temperature facilities enable accelerated container testing, cap liner studies, tests on permeation

(Continued on page 275)

Mode of Action of Ultra-Low Pressure Aerosols* *(conclusion)*

by Francis A. Mina, Ph.D.

ZONITE PRODUCTS CORPORATION, NEW BRUNSWICK, NEW JERSEY.

Ultra-Low Pressure Aerosols

Before introduction of the Ultra-Low Pressure System, it had been the considered opinion of the aerosol industry that a pressure of at least 35 p.s.i.g. was required to assure fine atomization of product. Indeed, it was because of this insistence that the Interstate Commerce Commission finally agreed, after considerable discussion with the industry, to allow beer-type disposable containers of relatively light weight metal to be used for low pressure aerosols. Prior to 1947, such containers were not permitted for products exceeding pressures of 25 p.s.i.g. @ 70°F.

With the advent of the Ultra-Low Pressure System, it was shown that factors other than pressure alone could contribute to the attainment of a fine spray in aerosols.

Ultra-Low Pressure aerosols are basically two phase in operation, however, they differ in three important considerations:

1. *Propellant.* While conventional aerosols contain *propellant* as the major constituent in which is dissolved a relatively small proportion of product, the Ultra-Low Pressure package consists primarily of alcohol base *product* in which is dissolved a relatively small proportion of propellant.

2. *Water.* Ordinarily, every effort is made to avoid the inclusion of moisture in two phase aerosol products. In the Ultra-Low pressure unit, inclusion of water is a most important factor, and in carefully controlled proportions, affects the degree of fineness of spray.

3. *Pressure.* Since fine atomization of product is obtainable with pressures as low as approximately 10 p.s.i.g., the utilization of glass, plastic, and other frangible containers now has become practical.

(Continued on page 250)

TABLE 1

Per cent alcohol (Vol.)	Parts by vol. dichlorotetrafluoroethane propellant required to saturate alcohol solution @ 70°F.	Minimum parts by vol. of propellant to provide satisfactory spray pattern	Per cent difference $100 - \left\{\frac{\text{Col. 3}}{\text{Col. 2}}\ 100\right\}$
(1)	(2)	(3)	(4)
Methyl			
90	14	13.6	2.85 per cent
*95	27	25.5	5.55 per cent
96	38	32.6	14.10 per cent
96.5	50	34.5	31.00 per cent
Ethyl			
85	17	16.5	2.94 per cent
*88	24	23.2	3.33 per cent
90	32	30.6	4.38 per cent
93	50	35.4	29.20 per cent
Isopropyl			
75	23	22.2	3.48 per cent
*80	31	29.5	4.84 per cent
85	50	36.0	28.00 per cent

*Preferred concentration.

*Delivered at the American Drug Manufacturers' Association, Research and Development Section, Hot Springs, Va., Nov. 11, 1955.

Packaging and Selling

Cosmetics in the Super's

It could be that we are approaching a time when the books will be balanced to see whether there is a profit or loss in some of the sales policies which have come to the front in well defined segments of the cosmetic industry during the last several years.

As an introduction to one of these problems, we quote from a recent speech of S. L. Mayham, Executive Vice President of the Toilet Goods Association, to that select group, the Cosmetic Importers, Buyers and Suppliers or CIBS. Here's what Mr. Mayham said: "I have heard grocery advocates expatiate at great length and with impressive figures along the lines that many and all toilet goods will go just like mad in these outlets. I have heard others, and with equally impressive figures argue just the reverse. If I were the judge, I would want a great deal more evidence before taking either position. Someone's face is going to be very red before the entire grocery store tale is told."

"One thing, however, is sure. While the cost of doing supermarket business in terms of discounts and allowances looked very profitable a couple of years ago, the boys who are running these outlets were not born of a Tuesday, and less and less are they inclined to give their shorts away to the manufacturers. They have learned fast, as might have been expected from such bright boys as they are, and they are no longer being 'taken' as they appeared to be not too long ago. I think the trend is still in their direction, but it has slowed down to a walk, and definitely the drug store and the department store are not all washed up, as it seemed to some that they might be. However, most of these older and more familiar types of outlet will have to be everlastingly on the ball from now on, and that, I believe, will be a very fine thing indeed for the cosmetic industry."

We would like to add to Steve's summary of the supermarket situation our own tentative appraisal of the situation.

We think that the supermarket tide for cosmetics has definitely reached its flood. Just about everyone in the cosmetic industry who had the right kind of a product, the right sales volume, and the acceptable price line have pretty well and pretty fully explored supermarket distribution.

As a second factor, we notice that at every supermarket convention or reported meeting of supermarket executives that these men now rarely mention expansion in cosmetics, but are turning their enthusiasm to such things as toys, different branches of apparel, and other types of consumer goods, hard and soft.

We might add as a concluding point that in our opinion some cosmetic people are already feeling slightly burnt from supermarket expansion.

In busting over into supermarket distribution, which has added anywhere from 10 to 20 or even 30 or 40 thousand stores to a distribution which previously numbered 50 thousand stores, some of the mass distributors in the cosmetic industry have been simply testing, through this excursion into the supermarket, the theory as to whether expanding distribution all by itself would bring expanding consumption. Most of those companies who went into supermarket expansion did not apparently increase their advertising or even their sales forces. All they did was to double the number of stores in which their products were offered to the consumer. Obviously, any retail dilution of this sort is a mighty risky thing if it is not accompanied by a big increase in consumer acceptance and consumer willingness to purchase.

We might add as a conclusion that it has long been our opinion that if the supermarket grocery store is opened up as a permanent, substantial part of cosmetic distribution that it will be companies outside the cosmetic industry who will benefit by this development. The reason we believe this is because we think with the supermarket, cosmetic distribution will exceed 100,000 stores. Very few people in the cosmetic business have the resources, or the structural setup in assorted products, or total sales volume to support the kind of a sales force needed to keep a distribution like this activated. This is the kind of mass distribution operation that is the favorite pasture of the big food and the big soap companies.

Factory Sales

Among all the headaches of the retailer, of which there are many current ones, such as the huge growth of house-to-house selling, the shifting areas of population, the rise of the discount house, to name just a few, there is one other that seems to be increasing in importance, and according to reports, now does about one billion dollars annually or about 1/11 of the volume done by all department and specialty stores. This is factory retail sales.

This is an estimate of the Chairman of the Vendor's Committee of the National Retail Dry Goods Association. Six states have prohibited industrial sales by law, Pennsylvania, Ohio, Illinois, Wisconsin, Michigan and Minnesota.

While most of the factory selling that has any organized form of discounts for employees, centers in such things as appliances and sporting goods, all sorts of other things, including women's and men's wear, are becoming important in this kind of selling.

We used to hear a lot about factory stores and about cooperative retail outlets, but for several years now there seems to have been very little publicity on this subject. Apparently, it is quite substantial and rapidly growing greater.

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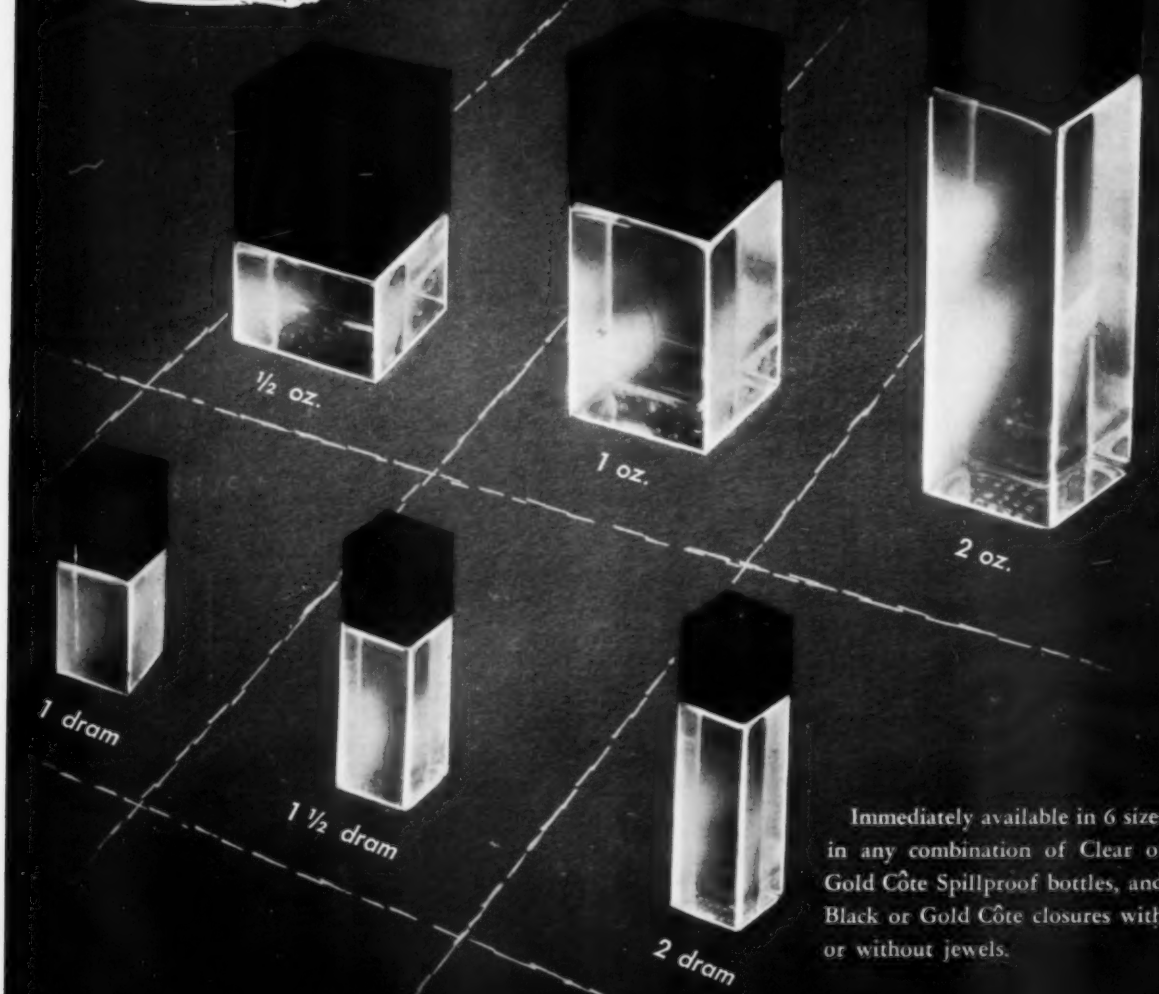
Now let your Imagination
Run Wild with these
NEW SQUARE
SPILLPROOFS



Immediately available in 6 sizes in any combination of Clear or Gold Côte Spillproof bottles, and Black or Gold Côte closures with or without jewels.

The smartest lines in 1956
will feature these sensational flacons.

Write today for samples and prices.

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404 FOURTH AVENUE, NEW YORK 16, N. Y.

Chlorophyll

An advertisement offering for sale a factory that had once been used to manufacture chlorophyll brings vividly to mind one of the high points of marketing hysteria which is part of the recent history of this industry.

It wasn't so long ago that every product in this trade which could use, or needed, a gimmick was jumping to join the chlorophyll boom. This included shampoos, deodorants, bubble baths, and, of course, towering over everything else, tooth paste. Outside of this trade, manufacturers of dog food, socks, cigarettes and even baby diapers scrambled desperately to be among the first to get on this fantastic sleigh ride.

At the highest pitch of this period of marketing frenzy, which happened in the latter half of 1952 and early 1953, the products of this trade which contained chlorophyll were reported to have a take at retail prices of nearly one hundred million dollars, and the retail take of all chlorophyll products was said to have gone beyond one hundred fifty million dollars. Probably a little over 25 per cent of the nation's tooth paste for a short time contained chlorophyll. At that time several American companies were desperately struggling to erect facilities for manufacturing chlorophyll, and for a while the drug trade knew all about alfalfa and the economic conditions surrounding the manufacture of chlorophyll. So heavy and insistent was the demand for this product, that English producers hastily arranged for representation here and supplies of chlorophyll began to flood in from abroad. To add to the frenzy and the fever, the situation was complicated by a number of patents, particularly some based on earlier research for therapeutic uses.

This trade has long been used to chlorophyll and for a generation or more had employed it as color material in soaps, ointments, and certain cosmetics. In fact, the plunge of so big and so competent a company as Colgate into the chlorophyll maelstrom was undoubtedly based on the fact that this company had been using chlorophyll as a coloring agent in palm olive soap for many years.

Why is it that a material of this sort with such a useful and respectable history and with so many promising therapeutic uses, based upon honest and careful research work should be footballed into an advertising and marketing frenzy which certainly impeded the long range growth of the product? There has been some difference of opinion in placing the blame for what happened. Some people think that the research folks oversold the results of their research and that the dental and medical professions too quickly and too enthusiastically accepted this research.

The majority, however, have little hesitation in putting the finger of blame upon a certain type of marketing and advertising man in this industry who is always on the search for a new gimmick or a new sales slant with which he can beat up the drums of mass advertising.

That there is a warning in what happened to chlorophyll is unquestionably true, and that this warning will go unheeded is undoubtedly more completely true. This industry has quite a few individuals who are in a crouched, waiting attitude to spring any gimmick that enters their minds which justifies a crash landing in any particular product field, with a few million dollars, hastily concentrated and spent within a brief period of time. The fact that up to date this formula has had the unhappy history of so often destroying the very product to which it was so devoted has probably done little to dampen the enthusiasm for future adventures.

We have only to remember the brief and merry life of the antihistamines in their claims for preventing the common cold, and the successive Mardi-Gras' in the tooth paste business to realize just what modern American marketing might due some day to some really valuable research.

Chlorophyll, of course, is not by any means dead. It has now retreated to some very valuable therapeutic uses and to the laboratory for continued research. Even modern American marketing, applying that formula of getting there first, with the most, regardless, does not always destroy a promising material.

This Expanding Industry

From time to time we run across a number of industrial problems which, it seems to us, opens up fruitful opportunities for drug industry research. These research opportunities should be of particular trade interest because they point to the wide opportunity opening up to the pharmaceutical industry to become a major industrial supplier and a major growth industry.

The specific industrial problem, which gave rise to this particular bit of introductory theorizing, is the use of an anti-bacterial agent on the lining fabrics for clothing.

One of the leading textile companies has entered into a licensing agreement with Sanitized, Incorporated for exclusive use of an anti-bacterial agent on their lining fabrics. This will be a feature in the companies' promotion for their fall textile line.

The advantages which will be claimed for this fabric, which contains the anti-bacterial agent, is that it will be "resistant to odor development," "non-mildewing," that it "will regard growth of bacteria and germs," and that this product will be "maintained through repeated washings and dry cleanings." It is also claimed to be non-toxic.

This is probably the first time that fabrics, which have had anti-bacterial (nothing is said about anti-fungus) treatment will be offered to the consumer and to the retail trade as a plus factor for wearing apparel. It seems to us that the trade can watch this development with the keenest sort of interest, for certainly the textile industry is one of the largest consumers of industrial products.

This Wonderful Country

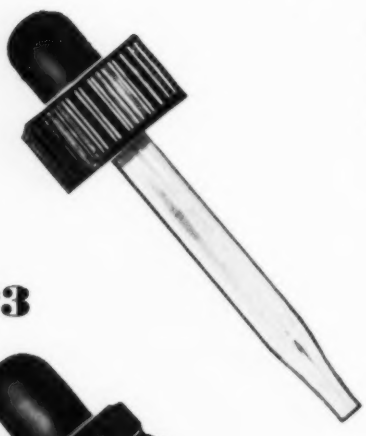
For anyone who has the slightest doubt about this being the most wonderful country in the world we quote from a recent talk to newspaper representatives by a Deputy Assistant Secretary of Commerce for Domestic affairs.

Here is the quote. Sales that will be made in the future will depend "less and less on the ability to buy and more and more on the willingness to spend."

A BETTER DROPPING PART MAKES A BETTER PRODUCT

#1

#2



#3

#4

To Be SURE Your Liquid Preparation Can Be Properly Dispensed

SPECIFY

New Perfection

DROPPING PARTS

Many a fine product has been rejected by the public simply because some seemingly small detail was below standard. The dropping part can be such a detail—an apparently simple device, yet vital to the user's satisfaction.

Since 1931, when Pennsylvania Glass originated the screw-cap dropping part, we have specialized in this important dispensing unit. This advantage in experience and specialization has made NEW PERFECTION Dropping Parts everything their name implies. Longer experience and undivided attention to one product have resulted in superior quality and reliable performance. To be sure of the best — specify NEW PERFECTION Dropping Parts.

We can supply various colors of bulbs in natural rubber or in our special oil-resisting Amekine compound, caps of plastic or metal in many sizes and colors, and various types of dropper glasses in any length with calibration in any color or plain. New Perfection dropping parts will fit your own bottles, or can be supplied in combination with our Modernistic bottles in Amber, Blue, Green or Clear glass. Sizes: ⅛, ¼, ½, 1 and 2 oz.

Write for Samples and Quotations

PENNSYLVANIA

GLASS PRODUCTS CO. INC.

"Glass Goods of the Better Kind"

430 N. CRAIG ST. • PITTSBURGH (13), PA., U.S.A.

Expansion for Cosmetic Companies

There are a lot of things that we thought we would never see, but two of them are discovering an advertisement page for fashion-wise Revlon in a farm magazine and, on reading this advertisement, to find Revlon putting limitations of any kind on the benefits of a cosmetic.

One of Revlon's primary products is, of course, their hand lotion. And yet in this farm journal we see Revlon saying, "Stop kidding yourself! Cosmetic lotions can't heal rough, red, **hurt** hands."

Of course, the thing that can do this job is Revlon's own **Silicare,** which is apparently simply a medicated hand lotion.

The really interesting thing to us about this page in the farm journal is the way in which Revlon, together with Max Factor and one or two other cosmetic companies, are pioneering in expanding into pharmaceuticals. As a matter of fact, Revlon now has a pharmaceutical division.

We have suggested many times before that with the numerous therapeutic materials available to cosmetic manufacturers in bulk, they have broad opportunities for applying their own particular skill in compounding to reach into certain branches of therapeutic care and development. It seems to us that this offers particularly valuable opportunities for the major cosmetic companies to diversify their operations for healthy growth.

Tested Selling

A small retail store out West has been doing a lot of experimenting by re-wording the way their sales people talk with customers.

The re-wording tried to establish two conditions. First, to avoid any situation where the customer could retort with a negative and, secondly, to give the saleswoman command of the interview.

Questions requiring a direct yes or no were almost completely eliminated from the sales girl-customer talk. Instead of saying, "Would you be interested" or "let me show you," the single word "let's" was substituted.

The use of specific expressions as "let's see if these new ones that just came in will do" gives the salesgirl a chance to study the customer's reaction but does not cause the customer to make a decision immediately.

During the last several years, we seem to have very largely lost sight of this kind of study for increasing the effectiveness of selling. Perhaps we are getting into a period where this sort of thing will become much more important.

Off Again

This should be the big year of the fluoride tooth paste. At least four companies have completed all of their preliminary plans for manufacturing and marketing testing in key cities. The ones we have heard of so far are:

"Crest," a Procter & Gamble product
"Brisk," Colgate-Palmolive
"Sentry," Bristol-Myers.
"Super-Ammident," Block Drug.

Xmas Decanters

Although it is still too brief an interval from the Christmas season, the rumors are that the great splurge in fancy decanters in the liquor industry has had its day. This does not mean that there won't be any future decanters, but it may mean that the same overboard rush among distillers to be there first with the most expensive package at Christmas time is over.

We remember commenting in these columns, when the first fancy liquor decanters appeared, with the somewhat strange boast on the part of the distillers that the consumer would pay no more for the liquor in this beautiful bottle than they had been paying for the liquor in the ordinary bottle, that the liquor people were getting in the same costly fix as the perfumer manufacturer. Even more so.

We have three impressions from this Christmas season in the liquor business:

1. That too many people bought their liquor in this expensive gift package for ordinary home use and not for a gift. In fact with some of these decanters, for a period of a month or so, everyone who bought that particular brand for their own particular use was handed the decanter.
2. It seems to us that there were so many decanters on the market that they pretty well cancelled each other out.
3. That this was a novelty, good for maybe a one year's run and with much less appeal for the future.

This does not mean that the liquor people should not aggressively compete for a bigger share of the Christmas gift business. They should. But it seems to us that they have got to think of gift packaging in a more specialized and in a different way than in a fancy bottle which competes too much with their utility bottle.

Cost of Selling

The variety store is one type of retailer which has been having its troubles during this period. This is shown up particularly in their relative place as a cosmetic retail outlet.

Just to show what these variety stores have been up against and how completely the switch toward customer self-service is becoming essential, the J. J. Newberry chain stated that in 1950, it cost 18.3c in wages to move a dollar's worth of goods and that today this is topping 20c.

That's about as much as the most extravagant cost of a demonstrator for a high price cosmetic line in a department store.

Business Life Expectancy

A survey by the Department of Commerce gives the life expectancy for American businesses. This study, which has been continuous for several years, gives a new business a one-in-five chance to last a decade. We are not sure about the drug business, although we think pharmaceutical manufacturers do better than that, but we do know very definitely that perfume and cosmetic manufacturers have a very much higher ratio of casualties. We would guess that less than one out of ten last two years, in this branch of the trade.

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Unit-Packages for your . . .

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- LIQUIDS
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- TABLETS

When you want a new and original Unit-Package — when you need the plus services of design and quality and rapid, controlled production — call for your I-L Packaging Specialist. His one mission in life is to help you get the Unit-Package you want . . . and he is backed by the tremendous production facilities of the 2 I-L plants and 200 I-L designed and built, high-speed packaging machines.

IVERS LEE CO.
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CREATORS OF A THOUSAND AND ONE DIFFERENT TYPES OF UNIT-PACKAGES

for tablets, capsules, triturates, powders, liquids, creams and unusual products during 35 years of Packaging Service.

Proportional Promotions

Two cosmetic companies have just denied charges of the Federal Trade Commission that they have been violating the Robinson Patman Act in regard to giving proportionately equal terms to all customers in promotional allowances.

These two companies are Helena Rubinstein, Inc. and Yardley of London, Inc. Two other companies, that is Hudnut Sales Company, Inc. and Elmo, Inc., who were cited at the same time have not yet filed an answer.

According to Yardley's statement, any possibility of violation in giving proportionately equal terms to all customers in trade allowances was caused by the introduction of a new cosmetic line during the last two years. This cosmetic line has been introduced in a limited way to just a few stores. These stores, during this period had a full time Yardley demonstrator, primarily on this new line. For this reason, during the short period of introduction, it did happen that some stores who were stocking both the products of the original Yardley line and the cosmetics of the new Yardley line received some additional favors. The company insists, however, that the nature and amount of these allowances were not such as to confer a substantial advantage over any competitor.

According to the Rubinstein statement, this company consistently had five alternate plans for services and facilities offered to stores before the trade practice rules of the cosmetic trade went into effect. In 1952, following these rules, a sixth plan was added, and in 1954, a seventh plan. Also before the rules, the firm had a legal program for advertising and promotion for various trading areas. These plans, the company insists, have been in full compliance with the rules.

Price Line

This month a retailer states in one of the business publications that he felt a great many retailers were falling into one of the most dangerous practices in retailing and that is "the inability of store owners to find themselves."

His definition of this phrase was that the particular retailers who had not "found themselves" did not have clearly in mind the part of the consuming public which they would appeal to and stick to. "If a retailer goes out of his price class, he will lose customers." "Customers like to know that the stores in which they shop won't change their stripes overnight." "When they do however, the customers are confused and will probably go elsewhere."

"I would be inclined to question the horse sense of a store owner who tells me that he sells blouses from $1.98 to $10.98. The woman who buys a better blouse will not buy it where cheaper blouses are sold and, undoubtedly, the reverse is also true."

This may be highly speculative theory. But it is in practices of this kind that stores make their reputations and become famous. This is how they become identified in the minds of the people in their area by some specific personality.

A great many cosmetic manufacturers in this industry consider this kind of a theory not only highly debatable but even nonsense. With the advent of television and a new concept of mass marketing, we have seen a number of the leading manufacturers hustling for distribution in every kind of outlet. These manufacturers have had no hesitation, and certainly no qualms, about mixing up, in one and the same distribution, the department store, the drug store, the chain, the variety store and the supermarket.

Obviously, in these radically different retail groupings, each with its own distinctive individuality, and certainly each with its own specialized price lines, there would seem to be quite a bit of that quality which this retailer defined as questionable horse sense. There was a time, particularly before the war, when there was quite a definite difference in the price line of the lipstick between the department store, the drug store, and the variety store. If the grocery supermarket had been a factor in cosmetic distribution at that time, there would have been a distinctive price range for the lipstick in the grocery store. This price line by the manufacturer for the lipstick has been all mixed up and confused during the last several years. Today, the dollar plus lipstick is predominant through all branches of distribution.

The big question here is, has the disappearance of any difference in the price line for lipstick in different classes of distribution become a permanent change in cosmetic selling or is it merely a phenomenon of these last few wonderful years.

We personally think that the dollar lipstick people who have extended their distribution of the dollar lipstick, substantially beyond the number and the kind of stores who belong in this particular price level may be very vulnerable in the next few years to some new competitive practices.

Co-Op Advertising

At the same time that retail discounts in general are being eroded by the discount houses and the manufacturer is taking over more of the cost of marketing, the department store is still trying to dip its finger deeper into the manufacturer's pocket.

This latest maneuver comes from an executive of the National Retailer Dry Goods Association and concerns cooperative advertising.

This latest idea on the part of the stores is that the retailer is justified in asking manufacturers to help pay the cost of the production of advertisements that are run on a cooperative basis.

Just about the most disproportionately equal terms in American business is the variety of demands which stores make to manufacturers on cooperative advertising. Some stores believe it is fully within their rights to add a sales commission to their own local advertising rate for manufacturers' Co-op advertising. Many who refuse to use the manufacturer's mats and well thought out, tested layouts and copy insist on processing this material in their own department and charging the manufacturer a fee, sometimes for art work and mats and sometimes even for overhead and services. In spite of the fact that cooperative advertising has become a seething mess of malpractice, inefficiency and indifference, it is still so important and it must be admitted so effective that the oversupply of this kind of advertising is undoubtedly the reason for the exorbitant demands on the part of many retailers.

NEWS IN PACKAGING...

Color in Packaging Rises

To keep up with the fast pace of self-service selling, drug packaging has used more color in the past five years than ever before, according to a survey recently completed for the Folding Paper Box Association. "This is in line with the demand by retailers for clearer identification in packaging," says John C. Newell, Jr., FPBA marketing director.

Customers have become used to supermarket - type merchandising for their drug needs, Mr. Newell concluded, and they make quick buying decisions when they go shopping. Color permits toiletries and cosmetics to command consumer attention in the midst of a growing array of drug and non-drug merchandise.

Select 100 Best Cartons

Experts in the field of package design, advertising, printing and trade publications have selected America's 100 best folding cartons, according to an announcement from the Folding Paper Box Association. Winners will be announced at the annual convention to be held Mar. 12.

Pharmacaps to Specialize

Pharmacaps, Inc., Newark, N. J., an associate of Standard Drug Co., will devote its facilities exclusively to the production of soft shell gelatine capsules, according to an announcement by Jack Starr, president. An extensive line of stock vitamin capsules and special formula capsules for private brands are available.

Roger & Gallet Promotion

Roger & Gallet has launched a special promotion introducing Blue Carnation Cologne in a new size, 1.7 oz. Billed as a 150th Anniversary Special, the promotion item consists of two packages of the new size, bound by a gleaming foil band and sold at a dollar saving. Begun January 20, the introductory sale extends to March 1.

President of Kimble Glass

Election of R. H. Mulford as president of Kimble Glass Co., subsidiary of Owens-Illinois, has been announced by Carl R. Megowen, O-I president. Stuart A. Kenworthy, vice president of Kimble, has been named general manager of the blown and tubular products division, one of three new divisions created by Kimble.

DONALD H. DALBECK

Heads Package Machinery

Donald H. Dalbeck has been elected president of the Package Machinery Co., according to an announcement by Roger L. Putnam, chairman of the board of directors.

Tissue Paper Standards

The U.S. Department of Commerce has issued Simplified Practice Recommendation R46-55 which lists those grades of tissue wrapping paper that are currently in general demand and believed adequate for use and for stock.

Using Safety Bottle Cap

To prevent young children from opening flavored aspirin bottles, Abbott Laboratories is using a spring steel bottle cap, reportedly the first such protective closure in the aspirin field. The safety cap was produced for Abbott by Upressit Products Corp.

Collapsible Tube Figures

Collapsible metal tube shipments for a single month reached an all-time high of 100,568,304 units in November, the Collapsible Tube Manufacturers Council has reported. Shipments included: pharmaceuticals, 17,368,416; cosmetics, 6,489,216; shaving creams, 3,266,496.

New Folding Box Technique

A new die standardization technique promising important benefits for high speed packaging operations is being made available to users of folding boxes by the Lord Baltimore Press, according to an announcement by Leonard Dalsemer, executive vice president of the company.

The program involves the use of standard "bends" instead of freehand methods in shaping contours of tucks and flaps when making dies for such folding boxes. Standardizatioa, it is claimed, eliminates the infinite variation in shapes that causes trouble on the high speed tuck-end carton-forming equipment now being produced by manufacturers of such machinery.

Cont. Can Buys Caps Rights

Continental Can Co. has purchased the exclusive manufacturing and sales rights for Turret Seal Caps and will manufacture these in sizes to fit metal cans, Millsplastic bottles and glass bottles.

Expanding Cont. Filling

Plant expansion and modernization to meet increased filling demands and to improve services have been announced by Clarence Carter, president, Continental Filling Corp. The Hobart, Ind. plant has new refrigeration and filling equipment in the process of completion, and the plant recently was equipped with a complete filling line for liquid products in all types of containers. The Danville, Ill. plant has modernized and improved its bottle filling line with stainless steel mixing and storage tanks.

Cont. Filling Booklet

Pressure packaging operations are described in a new booklet produced by Continental Filling Corp. Informative copy and photographs trace a product from its inception as an idea through the step-by-step process which creates a pressure package item. After showing how plant automation and human checks and balances combine to meet the product label's promises to the consumer, the booklet describes special procedures which are followed on the glass filling line.

THOMAS C. SHEFFIELD

LEROY R. ROOT

Calif. Cosmetic Assn.

Thomas C. Sheffield, vice president and West Coast manager of the Sheffield Tube Corp., has been appointed the 1956 chairman of the Associate Group of the California Cosmetic Association.

Glass Container Shipments

Glass container shipments in 1955 totaled 18,089,000,000 units, an 8.7 per cent increase over 1954 and an all-time record, according to figures released by the Glass Container Manufacturers Institute, Inc.

Shipments for packaging of drugs and cosmetics, about 21 per cent of the total, were 3,832,848,000 units, an increase of 8.1 per cent over 1954. Glass containers for packaging chemicals, both household and industrial and constituting nine per cent of all shipments, totaled 1,639,296,000, a 4.3 per cent increase.

Bakelite Gen. Sales Mgr.

John D. Benedito has been appointed general sales manager of the Bakelite Company, Union Carbide and Carbon Corporation's plastics division, it has been announced by C. W. Blount, vice president in charge of sales. Mr. Benedito succeeds H. K. Intemann, who has been named executive vice president of Electro Metallurgical Co., also a Carbide division.

50,000,000,000th Beer Can

A commemorative plaque bearing the 50 billionth can manufactured for the packaging of beer and ale in the U.S. was presented Jan. 24 to Secretary of Commerce Sinclair Weeks in Washington. The presentation was made by Edward V. Laher, president of the United States Brewers Foundation, and Thaddeus E. Alwyn, vice president of the American Can Company's Atlantic division.

Leroy R. Root Retiring

Leroy R. Root is retiring as sales manager of the drug and cosmetic container division of the Scovill Manufacturing Co., effective Feb. 15. He will continue to serve the division as a consultant on product development. William H. Harris has been appointed to succeed Mr. Root.

Joining Scovill in 1919, Mr. Root was transferred to the New York sales office in 1920. He was appointed sales manager of the drug and cosmetic division in 1947.

The first mechanical lipstick was designed and patented by Mr. Root, who also developed many of the cosmetic containers in use today.

Named by G. Barr Co.

Gerald G. Foster has been named manager of the new Los Angeles plant of G. Barr and Co., it has been announced by George Barr, president. Mr. Foster will supervise both the production of pressure-packaging and the operations of the quality control laboratory.

John T. Woodside

John T. Woodside, president of Weco Products Company (manufacturers of Dr. West toothbrushes) died suddenly January 28 in Miami, Florida, at the age of sixty-six. Mr. Woodside was also chairman of the board of Owens Brush Company, and chairman of the board of Weco Products Company, Ltd., Montreal. He was a member of the board of governors of the Chicago Heart Association, and was active as a 32nd degree Shriner, Medinah Temple, Chicago. He is survived by his widow, a daughter, a son, and a sister.

Packages and Advertising

Toiletries and cosmetic manufacturers should tie in packaging with their advertising programs to give national promotion added support, according to opinions of leading department store executives whose views are expressed in a study of retail packaging just completed by the Folding Paper Box Association in cooperation with the National Retail Dry Goods Association. Creative packaging increases the effectiveness of a manufacturer's advertising, because it provides the most important link in the marketing of products—recognition at the point of sale, according to the study.

Edwin Fox Ebberts

Edwin Fox Ebberts, 65, retired executive of the glass and closure division of the Armstrong Cork Co., died unexpectedly Jan. 23 at his home in Lancaster, Pa. For many years Mr. Ebberts managed Armstrong's corks business and was well known in the cork industry here and abroad. He served Armstrong from 1906, when he started in a clerical position, until his retirement in 1950.

L. H. Zahn, center, Ciba Pharmaceutical Products, Inc., and chairman of the Packaging Institute's Drug and Pharmaceutical Committee, presenting retiring members Dr. John C. Bird, left, Lederle Laboratories, and H. Earl Nack, Sharp & Dohme, hand-engrossed scrolls of appreciation from their fellow committee members.

The right closure makes

MUST SELL ITSELF

Your package—the container and closure—must do its sales job quickly. Shoppers pause only a few seconds before choosing a brand.

EASY TO REMOVE, EASY TO RE-SEAL

Here's a point-of-use appeal that also is an important feature of good closure showmanship. This spring torque tester tells closure designers how much pressure is necessary for good sealing and easy removal.

SEALED PROTECTION

Your product is protected—safe from evaporation—safe from contamination. The Tacseal innerliner seals tight and defies tampering. Tacseal innerliners are available for all type products in both metal and plastic closures.

Patent THOUGHTS AND TRENDS *by Thomas Cifelli, Jr.*

EIGHTH YEAR OF U.S. TRADE MARK ACT OF 1946

(Continued from page 171)

is all that is required for Supplemental Registration."

It should be noted, however, that in its only recent decision on this point the Court of Customs and Patent Appeals appears to be more sympathetic toward protection of secondary marks than the Office has been in some of the more recent cases, Hat Corporation of America v. John B. Stetson Company, 106 USPQ 200 (CCPA 1955). Thus, in the "RAIL BIRD"—"GAME BIRD" case, to which reference was made in last year's report, "The Seventh Year," supra, note 2, p. 5 and note 30, the Court, while affirming the Commissioner's decision that the two terms were not confusingly similar, as applied to hats for men and women, and that the opposition was, therefore, rightly dismissed on that ground, also commented on the rejection exparte by the Commissioner of the term "RAIL BIRD" on the ground that it had been used merely as a style designation of a particular "Stetson" hat. Since the applicant did not appeal from this adverse ruling, the Court held that, upon appeal by the losing opposer, the ex parte issue was not properly before the Court. On the other hand, it was also emphasized that the Commissioner's ex parte ruling had not made the confusion issue moot, since otherwise the way would be left open to the applicant to file a new application after "obtaining a greater quantity of trademark use * * * ." The Court then expressed its agreement with the opposer's argument that the fact that both marks were used in connection with "Dobbs" and "Stetson" should not have a bearing on the issue of similarity since the controversy between the parties concerned the word "GAME BIRD" and "Rail Bird" alone, and added:

> "We therefore feel that it was improper to consider the marks STETSON and DOBBS under the foregoing fact situation," 106 USPQ 200, at 203.

"Ingredient" Marks

It is understood that such marks will now be accepted for registration where the ingredient is "separably identified and identifiable." Only where this standard cannot be met by the applicant will registration be refused under the rule of the "Lurex" andt "Penaten" cases. In the Lurex case the use of the word "Lurex" to identify an ingredient in a rodenticide was held not to be a trademark use of the word. A similar result was reached in the "Penaten" case where it was held that this word was used only to describe a name and an ingredient or a feature of Woodbury's face cream.

Registration in the Name of Domestic Agent or Distributor

Since the perfume and essential oil fields in the U. S. A. have many members who are domestic agents or distributors of foreign principals, this subject should be of great interest. Recent rulings have had the effect of strengthening the trademark rights of the foreign principal as compared with the domestic agents or distributors. Thus it appears firmly established that mere importation of foreign-made products by an agent or distributor will not constitute sufficient trademark use for the purpose of establishing ownership of the trademark by the agent or distributor. In the case of Rimmel, Inc. v. Nelson, 102 USPQ 258 (C. P. 1954), the Commissioner stated:

> It is not seen how this opposer acquires rights in the trademark of the French manufacturer merely through importation and sale of the foreign-made goods bearing the mark any more than a wholesaler acquires rights in the trade mark of an American manufacturer merely through sale and distribution of American made goods bearing the manufacturer's mark.
>
> * * * *
>
> A trade mark indicates origin of the goods. The origin of the goods opposer sells is the French manufacturer. A trademark also performs the function of advertising and selling—but the advertising and sale of the goods involved here is in connection with those of the French manufacturer and not opposer.

However, Dr. Derenberg points out that the Commissioner observed that while such distributors should not be held entitled to registration in their own name they may still have status to oppose registration of a confusingly similar mark by another party, particularly where the distributorship is exclusive in terms.

The present policy of the Patent Office is not to permit registration even in the name of exclusive distributors of foreign made products unless it can be established that to some extent the manufacturing good will associated with the product inures to the benefit of the registrant or unless the American business is an entirely independent business.

(Continued on page 208)

NEW! SCHRADER

★ **Designed exclusively for foam**

★ **Rapid pressure filling makes loading easier**

10 Reasons Why PRESFOAM is best for Dispensing

- "Ribbon" pattern dispensing . . . easier to use . . . reduces waste
- Better wiping action—vertical opening designed to fit the hand
- Positive locking
- Positive direction . . . no "flying" foam
- Positive shut-off
- Even flow rate . . . every time!
- No extra cover to replace . . . easy and economical to assemble
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- Attractive appearance . . . various color combinations available
- Schrader-made parts . . . Schrader assembly . . . Schrader 100% inspection . . . Schrader reliability backs each valve

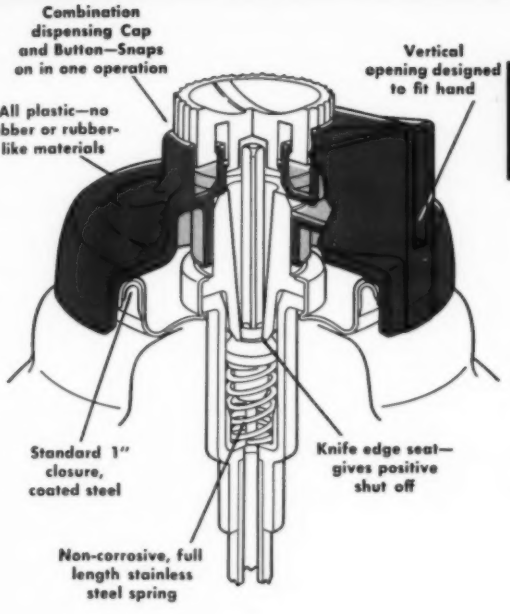
The ideal foam valve is available for your forward planning. Now in the all-new Schrader PRESFOAM Valve you get the answer to today's and tomorrow's competitive foam dispenser problem: *Customer satisfaction.* Here's a valve designed with you and your customer in mind. *For you* it means faster filling since this is a rapid pressure filling valve that'll load fast! It's attractively designed – handsome, all plastic – no rubber – combined with corrosion-resistant stainless steel spring, available in combinations of colors to match your requirements. And what's more – every valve is backed by Schrader's unexcelled research and development facilities. *For your customer,* PRESFOAM means ribbon-pattern foam that's easier to use.

Get set with PRESFOAM – the all new foam valve that's designed exclusively for your foam needs.

Schrader®
ESTABLISHED IN 1844

AEROSOL and FOAM VALVES made by the leading producer of Standard Tire Valves

Presfoam VALVE


Combination dispensing Cap and Button—Snaps on in one operation
Vertical opening designed to fit hand
All plastic—no rubber or rubber-like materials
Standard 1" closure, coated steel
Knife edge seat—gives positive shut off
Non-corrosive, full length stainless steel spring

INSIDE STORY OF PRESFOAM

Take a closer look at this stellar performer. The all-new PRESFOAM offers stainless steel spring and all plastic construction—no rubber components. Button part of dispensing cap—that means no plastic threads to strip. And see, too, a minimum number of parts make up this valve—less chance of failure in use. It's economical for you to use. Remember: the same quality inspection methods you'd expect on any Schrader Product—are used on the new Schrader PRESFOAM Valve.

SCHRADER #840 PRESFOAM VALVE—for all foam type dispensing. Supplied in 1" closure with draft tube assembled. When ordering specify make and ounce capacity of can so right draft tube length can be furnished. Dispensing opening ¾" x ¼" vertical. Other openings to meet your specifications. Ribbon pattern. Positive wiping action. Positive direction. Coated steel closure—stainless steel spring and all plastic—no rubber components. Pressure filling type. Available in various colors. Priced competitively. Samples on request. Backed by the good name of Schrader.

MAIL THIS COUPON TODAY

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Incorporated, Dept. D
470 Vanderbilt Avenue, Brooklyn 38, N. Y.

I am interested in full information on your PRESFOAM VALVE

Name_____ Title_____

Company_____

Address_____

DEPARTMENT OF TECHNOLOGY
BUFFALO AND ERIE COUNTY PUBLIC LIBRARY

(*Continued from page 205*)

In line with this policy the Commissioner recently dismissed a petition to cancel the mark "Henry a la Pensee"[34] brought in the name of a New York corporation which had been the exclusive importer and distributor of registrant's goods in the United States. It was held that the use by the distributor of the mark which was sought to be cancelled inured to the benefit of the French principal, that the distributor's rights did not arise from the trademark alone but from various contractual agreements with the French company and that the nonuse of the mark by the latter during World War II was an excusable nonuse which was cured after termination of the war. The doctrine was again applied and forcefully restated in the Commissioner's two most recent decisions with regard to two applications by E. Leitz, Inc. to register the names "E. Leitz" and "Wetzlar" displayed with in a design.[35] These applications were filed by the American importer and distributor of the world-famous German "Leica" camera and related equipment. The applicant had acquired its alleged trademark rights from the Office of Alien Property, which had vested the trademarks registered in the name of the American affiliate of the German manufacturer, to which the Commissioner's decision refers as "New York Leitz." It was held that the goodwill in the United States symbolized by the names "Leitz" and "Leica" had its situs in Germany and that the American distributor acquired no part of that goodwill as a result of importation and sales in this country of German-made products. Commissioner Leeds continued:

> "At the time of vesting, New York Leitz had a goodwill in the distribution and repairing of German Leitz products, but such goodwill is separable from the goodwill symbolized by the mark and from the goodwill of the business in which the mark is used. The 'distribution goodwill' of New York Leitz has its situs in the United States, and so far as this record discloses, it was that goodwill, and only that, which was vested, since that was the only goodwill which had its situs within the jurisdiction of the United States.
>
> * * * *
>
> "Since the goodwill symbolized by the mark 'Leitz' did not have its situs in the United States, it was neither vested nor assigned by the instruments executed by the Office of Alien Property. It is therefore held that this applicant did not become the owner of the trade mark sought to be registered as a result of Vesting Orders No. 18376 and 18787 and the subsequent assignment to it of the property which was vested."

In the companion case, it was observed that the applicant could not avail itself of the recording privileges under Section 42 of the Act or Section 526 of the Tariff Act since those sections were intended to protect a trademark *owner registrant*,[36] whereas an American sales agent, even though he may be an exclusive distributor, should not be considered the owner under the Birnbaum and Rimmel cases[37] and other precedents.

34. Henry a la Pensée, Inc. v. Société à Responsabilité Limitée Henry à la Pensée, 104 USPQ 119 (C. P. 1955).
35. Ex parte E Leitz, Inc., 105 USPQ 480 and 481 (C.P. 1955).

Slogans and Combinations of Words

The general policy of the U. S. Patent Office in the past has been unreceptive in so far as slogans are concerned. In this connection slogans such as "5 Full Glasses In Every Bottle." "Sleeping Is A Serious Business," "best in the long run," "Why Pay For Overhead When You Can't Wear It?" were held unregistrable as trademarks.

Dr. Derenberg feels that a Patent Office decision in the recent case of Ex parte Robbins & Myers, Inc., 104 USPQ 403 (C. P. 1955), indicates that a new trend has been established. The slogan there involved, "Moving Air Is Our Business," for electric fans was held registrable.

Dr. Derenberg, recalling that a recent book published some 13,000 American slogans feels that the Patent Office may ultimately have to return to its previously cautious approach in this connection.

The Meanings of Merely Descriptive v. Generic & Deceptive v. Deceptively Misdescriptive

These terms have highly technical meanings which need not concern us unduly here. Suffice it to say that merely descriptive marks qualify for registration on the Supplemental Register or on the Principal Register, under Section 2 (f) if they have acquired distinctiveness, whereas generic marks are not registrable under any circumstances. Similarly, deceptive marks are unregistrable under any such circumstances whereas those which are deceptively misdescriptive can be registered under Section 2(f) of the Principal Register if the mark has acquired distinctiveness.

For practical purposes we can say that Dr. Derenberg, after reviewing all of the recent cases, has confirmed the experience of many patent attorneys to the effect that the Patent Office recently seems to favor the applicants for registration in close cases.

What Constitutes "Primarily Merely a Surname"?

The Patent Office has attempted to reconcile the differing views which have been expressed on this subject in recent years both by the Patent Office and by the Courts. In the case of Ex parte Rivera Watch Corporation, 106 USPQ 145 (C. P. 1955), registration was sought of the name "Rivera" on the Principal Register as a trademark for watches. The word appeared in stylized script. The applicant argued on appeal that while "Rivera" was admittedly a surname, it was not "primarily merely a surname" since it was a Spanish word meaning a small stream or rivulet. The Examiner rejected the application on the

(*Continued on page 246*)

NEWS...

A. M. D. Elects Officers

Dr. W. Alan Wright, medical director of Pfizer Laboratories, has been elected president of the Association of Medical Directors for the 1956 term. Vice president is Dr. John Jewell, vice president in charge of research for Ayerst Laboratories, division of American Home Products. Secretary is Dr. Ben Lamman, medical director of Schenley Laboratories.

DR. W. ALAN WRIGHT

Perfumers' Society Forum

Premarket testing of fragrances will be discussed at an open symposium of the American Society of Perfumers to be held on the afternoon of Mar. 21 at the Essex House, New York City. Experts in market research and representatives of leading fragrance and toiletries firms will discuss available methods for determining consumer acceptability in the fragrance field. The program will include studies on the psychological influence of perfumes.

Interested members of the industry are invited to participate in the discussion. The committee for the meeting is Everett Kilmer, chairman, Pierre Bouillette, Andrew Farago, Oliver Marton, Ernest Shiftan and Christian Wright. A cocktai hour and dinner will follow the meeting. Programs and reservation forms will be mailed to the industry.

Bela Is Penick Plant Mgr.

Andrew Bela has been appointed plant manager for S. B. Penick & Co. at its Lyndhurst, N. J. plant, according to Harold E. Fletcher, vice president in charge of production.

Pharm. Adv. Club Slate

The Pharmaceutical Advertising Club's officers and directors for 1956 presided at the first meeting of the year Jan. 12 at the Hotel Roosevelt, New York. Principal speaker was Robert Lyons of the American Medical Association. Robert H. Spencer, advertising manager of Schieffelin & Co., is the club's newly elected president and chairman of the board; Dr. J. N. McDonnell, vice president of Schering Corp., is president-elect for 1957. This year's slate of officers and directors follows:

Vice presidents, Arthur C. Emlin, general manager of J. B. Roerig & Co., and Dr. William T. Strauss, medical director for television, Ciba Pharmaceutical Products, Inc.; treasurer, Wilbur M. Monday, sales promotion manager of Hoffmann-La Roche Inc.; secretary, Thomas Lewis, advertising and export manager of Walker Laboratories.

ROBERT H. SPENCER

Elected to the board of directors were E. A. H. King, general manager of Crookes Laboratories, and Lyman Stockman, assistant advertising manager of Organon, Inc.

Other board members, all past presidents, are S. M. Fossel, director of clinical promotion, Organon, Inc.; Ira Contant, advertising manager of Hoffmann-La Roche Inc.; Raphael M. Nacca, executive vice president of Organon, Inc.; John Hinse; Ted Miller, advertising manager of the pharmaceutical division of the Borden Co.; and Robert Irons, advertising manager of the pharmaceutical division of Wallace & Tiernan.

Searle Appointments

Warren R. Beck has been appointed director of sales services for G. D. Searle & Co. and Robert M. Sweeney, director of sales education, according to an announcement by Franklin P. O'Brien, vice president in charge of distribution.

Name Douglas, Sr. Scientist

Dr. S. D. Douglas has been appointed senior scientist in the research department of Carbide and Carbon Chemicals Co., a division of Union Carbide and Carbon Corp., according to an announcement by Dr. G. H. Law, director of research for the company. Dr. Douglas will conduct basic research in the field of plastics.

Mantz Appointed by Squibb

Richard C. Mantz has been appointed a product sales manager in the home office of E. R. Squibb & Sons. He has recently been serving as a special products representative for Squibb in Cleveland.

DR. GEOFFREY W. RAKE

Squibb Scientific Director

Dr. Geoffrey W. Rake has been appointed scientific director of the international division of Olin Mathieson Chemical Corp., according to an announcement by Thomas S. Nichols, president. In his new post, Dr. Rake becomes responsible for all pharmaceutical, medical and veterinary research conducted outside the U.S. by the company's Squibb International division.

Promote Three Organon Execs.

Organcn Inc. has announced the promotion of three executives: George B. Daetz, formerly controller, is now assistant treasurer as well as controller; Remo Farias, formerly field sales manager, has been appointed general sales manager; Joseph J. Ruvane, Jr., who was director of sales co-ordination, has been appointed assistant to the executive vice president.

Name Wasserman V.P.

Harry B. Wasserman has been appointed vice president and general sales manager of Bymart-Tintair, Inc., Martin L. Strauss II, chairman of the board and president, has announced.

ALPHA METHYL CINNAMIC ALDEHYD

Typical Specifications:

PHYSICAL APPEARANCE:	Light yellow liquid.
ODOR TYPE:	Cinnamon, Cassia.
SOLUBILITY:	10 parts soluble in 12 parts of 80% Ethyl Alcohol.
STABILITY:	Stable in presence of alkalies—of excellent lasting quality.
REFRACTIVE INDEX $n\frac{20}{D}$:	1.6040
SPECIFIC GRAVITY $\frac{20}{20}$:	1.036
QUALITY:	Carefully produced to rigid specifications and checked in our modern control laboratories.
SUGGESTED USES:	A notable and successful raw material for the production of OIL CASSIA SYNTHETIC.

Investigate these additional VERONA specialties:

CYCLAMAL • DIMETHYL OCTANOL SPECIAL

RESEDALIA • VERONOL • ROSANOL

Sole representative in the United States for J. & E. Sozio, Grasse, France

Resinoides **Essential Oils** **Natural Absolutes**

Write us for our complete list of specialties and other aromatic chemicals.

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Aromatics Division

VERONA CHEMICAL COMPANY

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1210 Rosedale Avenue, Chicago, Ill.

F. O. ROBITSCHEK

CHARLES V. NICKOLSON

Robitschek Heads Onyx

F. O. Robitschek has been appointed president and chief executive officer of Onyx Oil and Chemical Co. He was formerly general merchandise manager of the soap sales division of Colgate-Palmolive Company. In 1945, he was sent to Germany by the Technical Intelligence Commission of the U.S. Department of Commerce to study the German dye stuffs industry.

Form Sheffield Chem. Div.

Sheffield Chemical Co., Inc., Norwich, N. Y. became a separate operating division of Sheffield Farms Co., Inc. as of Jan. 1 and will be known as Sheffield Chemical, Division of Sheffield Farms Co., Inc.

John R. Borst, vice president of the chemical company, is now general manager of the new division. F. A. Baldauski, technical director of the former subsidiary company, is sales manager, and G. C. Hooks is technical director. P. M. Reed and A. A. Sullivan have been appointed production manager and operations manager respectively of the new division.

Shulton Sales Meeting Held

At the Shulton, Inc. recently held annual sales meeting, branch managers and sales representatives heard the company's 1956 sales, promotional and advertising plans. George L. Schultz, president, presented Charles Williams of the Pacific territory with the president's award, one of six annual awards which were instituted this year, the others being four branch managers' awards and one "rookie of the year" award.

Applezweig Assoc. Move

Norman Applezweig Associates, consulting biochemists, have moved their offices and laboratories to 131 Christopher St., New York City.

Stokes' Gen. Sales Mgr.

Charles V. Nickolson, formerly manager of the international division of F. J. Stokes Machine Co., has been appointed general manager of product sales. Reporting to A. A. Hutchings, vice president in charge of sales, Mr. Nicholson will direct all headquarters sales and marketing activities, both domestic and international, for all of Stokes' products.

Seiden Is Vice President

Chief chemist of Haver-Glover Laboratories in Kansas City since 1938, Rudolph Seiden has been appointed vice president in charge of production and research. Haver-Glover is a veterinary-pharmaceutical manufacturing firm which recently became a subsidiary of Cutter Laboratories.

Dr. Pasternack Retires

Dr. Richard Pasternack, one of the foremost authorities on carbohydrate chemistry, has retired from Chas. Pfizer & Co., Inc., after 35 years service with the firm. With the help of three other chemists, Dr. Pasternack founded Pfizer's chemical research laboratories in 1920. Author of many Pfizer patents, he also participated in work on penicillin and helped determine the structure of terramycin by isolating the first crystalline degradation product. He will continue with the company on a consultant basis.

J. B. Williams Honors 59

The J. B. Williams Co. has presented 59 gold watches to employees whose company service totalled over 2,000 years, the average length of service being 36 years. Singled out for particular attention by Charles T. Lipscomb, Jr., president of the company, was Tom Haugland, vice president of production, who had 50 years service with Williams, and Dr. H. H. Guest, who came to the company in 1912 and was responsible for many product developments.

Name Administrative Asst.

Lee R. Ivey has been appointed administrative assistant in the research budgets and services department of Schering Corp. Dr. Bradley Whitman, manager of research administration, is head of the department.

CIBS officers, directors and committee chairmen for 1956. Seated, left to right, are Jack Jordan, Crown Cork & Seal Co., who was elected corresponding secretary; J. E. Beyer, Lehn & Fink, treasurer; J. W. Voit, George Leuders & Co., recording secretary; David Warner, Fleuroma, Inc., president; G. A. Kaempkes, Pacquin, Inc., 1st vice president; W. L. Jaeger, Park & Tilford, 2nd vice president; E. R. Ellis, Charabot & Co., Inc., director. Standing, left to right, are F. X. Hussey, Evans Research & Development Corp., constitution chairman; H. N. Anderson, H. Kohnstamm & Co., Inc., director; Samuel Zuckerman, H. Kohnstamm & Co., Inc., award chairman; A. T. Stewart, Parfait Promotional Packaging Co., membership chairman; A. E. Mosheim, Jr., House of Tre Jur, Inc., entertainment chairman; W. Rubin, Topics Publishing Co., Inc., publicity chairman; H. A. Cowperthwaite, T. C. Wheaton & Co., auditing chairman; P. W. Alexander, Drug & Cosmetic Industry, historian. Not present when this photograph was taken was Robert C. Ring, Hewitt Soap Co., Inc., director.

Dawn of a Great Day in Perfumery–

VERSALIDE*

A New Musk Body

VERSALIDE is a new and uniquely different type of musk—the product of more than two years of extensive research and testing. Its development by Givaudan opens up fresh fields of opportunity for creative perfumery.

Versalide has an intense, sweet odor that lends to a perfume all the enhancement, sweetness, strength and fixation expected only from the macrocyclic musks.

Its versatility is almost unlimited, and its advantages are both numerous and practical. A pure chemical body, not a mixture, it is produced in unvarying quality from readily available materials.

Versalide is extremely economical. It is stable to light, air, heat, alkali, does not discolor soap, is not an irritant or sensitizer to the human skin, and is safe for all cosmetic preparations. It is also useful as an alcohol prefixer.

Here is an outstanding new material with an exciting potential. May we give you samples and further information on Versalide?

Leaders in Aromatic Chemical Research

GIVAUDAN-DELAWANNA, INC.
330 West 42nd Street, New York 36, N. Y.

Branches; Philadelphia • Boston • Cincinnati • Detroit
Chicago • Atlanta • Seattle • Los Angeles • Toronto

**Patent Pending*

Purdue Frederick Promotions

Four promotions have been announced by Benjamin Schneider, president of the Purdue Frederick Co. Mrs. Elizabeth Short was named assistant vice president and director of internal operations, a new post. Seymour A. Lubman was promoted to general sales manager, and Robert E. Neukom replaces him as national field sales manager. Mr. Neukom formerly was district manager in Chicago. Murray Altman, previously a special representative, was named field convention manager, also a new position.

Conn. Chemical's Expansion

A. O. Samuels, president of Connecticut Chemical Research Corp. has announced the greatest plant and personnel expansion program in the history of the aerosol manufacturing company to handle the record business booked by the contract packaging division, serving cosmetics, toiletry, drug and household products firms. Mr. Samuels made known a number of key appointments and promotions.

Eric S. Farber, controller, has been elected assistant treasurer and member of the board of directors. E. Don Pam, has been appointed vice president for sales in the contract packaging division. Promoted to personal assistant to the president in the contract packaging division is Edwin R. Lasner, formerly regional sales manager.

Technical director is Fred Presant, who will be in charge of product development, chemical compounding, research and quality controls. Package engineering, research and development have been placed under the direction of Andrew J. Zelle. Milton F. Fowks has been appointed assistant to the technical director.

Leonard Kenner has been engaged as a research chemist specializing in new product development in aeroso pharmaceuticals and antibiotics. The new director of quality control is Joseph A. Boruch. John W. Vellturo has been assigned to analytical testing of incoming raw chemical materials as quality control chemist.

Miss Priscilla Porterfield has been appointed home service consultant Kenneth P. Lake will be in charge o cost analysis and estimating. Lawson H. Luth has been promoted to works manager. Henry W. Kiekel is sales service manager of the contract packaging division.

CHARLES F. DOLAN

Baxter Appoints Dolan

Charles F. Dolan has been appointed director of market research for Baxter Laboratories, Inc., according to an announcement by Raymond D. Hetterick, vice president in charge of sales.

Head Kolmar Labs Research

Kolmar Laboratories has announced the appointment of Otto Jacobi, Ph.D., as director of research and William F. Buth, B.S., as director of chemical research, the appointments following the accepted resignation of Dr. Herbert Heinrich.

Dr. Jacobi will supervise research in skin physiology, animal pharmacology, chemical analysis, formulation and essential oils. Mr. Buth will be in charge of research in organic and inorganic synthesis and Wickhen production. Dr. Jacobi and Mr. Buth jointly will maintain customer and supplier contacts.

DR. E. J. FOLEY

Foley Is Winthrop V.P.

Dr. Theodore G. Klumpp, president of Winthrop Laboratories, has announced the appointment of E. J. Foley, M.D., as vice president. Head of Winthrop's medical department since 1955, Dr. Foley has been associated with the company for 23 years. From 1942 to 1946 he served in the U.S. Medical Corps in the U.S., North Africa and Italy.

Wrisley Promotes Hehnke

John E. Hehnke has been promoted from field sales manager of Wrisley Brand Merchandise for the Allen B. Wrisley Co. to sales manager, in which position he will have increased responsibilities for personnel and for the effectiveness of the sales organization. His duties will also include administration of the sales program and continued development of good customer relations.

Key personnel in the new expansion program of the contract packaging division of Connecticut Chemical Research Corp. meet with the company's president, A. O. Samuels, seated at left. Around table, left to right, are E. Don Pam, vice president for sales; Miss Priscilla Porterfield, home service consultant; Lawson H. Luth, works manager; and Eric S. Farber, controller and assistant treasurer and member-elect of the board of directors. Standing, left to right, are Fred Presant, technical director; Joseph A. Boruch, director of quality control; Kenneth P. Lake, cost analyst; Andrew J. Zelle, director of package engineering and research; Milton F. Fowks, assistant to the technical director; Henry W. Kiekel, sales service manager; John W. Vellturo, quality control chemist; and Leonard Kenner, research chemist in pharmaceuticals and antibiotics.

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For 33 years, Felton has been building a reputation for supplying industry with quality perfume materials.

This enviable reputation—based upon a combination of experience, technical know-how, creative skill and extensive facilities—assures perfume fragrances that enhance your products appeal, performance and ultimate success.

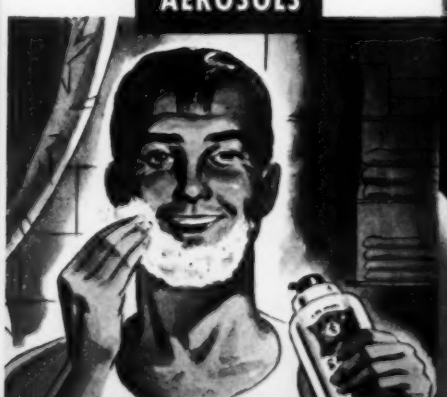
Consult us on your perfuming or neutralizing problem. We'll give you the right answer without obligation.

COSMETICS

SOAPS

PERFUMES

AEROSOLS



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CHEMICAL COMPANY, INC.

Perfume Bases
Essential Oils
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Montreal, Que. • Ver[illegible] (A.C.) France

SALES OFFICES:
Atlanta • Boston • Chicago • Cleveland
Philadelphia • St. Louis • Toronto
Stocks Carried in Principal Cities

FRANK J. MILO

Rhodia Sales Representative

Rhodia, Inc. has appointed Frank J. Milo as sales representative, specializing in the sale of aromatic and industrial odor control chemicals.

New Merck Research Div.

Research activities of Merck & Co., Inc. will be consolidated in a new division of the company, to be called Merck, Sharp & Dohme Research Laboratories, John T. Connor, president, has announced. Previously, research had been under the direction of the company's chemical division in Rahway, N. J. and Sharp & Dohme in West Point, Pa.

Dr. Max Tishler has been appointed head of the new division with the title of vice president and executive director, effective Mar. 1. With Merck since 1937, he is currently vice president for scientific activities of the chemical division.

Dr. Randolph T. Major, who has resigned as scientific vice president, effective Mar. 1, will remain with Merck on a part - time basis in an advisory capacity.

Heads Bacteriologists Unit

Dr. Philip C. Eisman, director of bacteriological research at Ciba Pharmaceutical Products Inc., has been elected president of the 800-member New York City branch of the Society of American Bacteriologists. He worked for the Borden Co. and Lederle Laboratories before joining Ciba in 1945 as a senior bacteriologist, holding this position until his appointment as director of bacteriological research in 1952.

Schering Appoints Najarian

Ralph Najarian has been appointed manager of domestic advertising of the advertising division of Schering Corp., according to an announcement from Dr. John N. McDonnell, vice president of the company.

WILLIAM B. MASON

Onyx Promotes Mason

Onyx Oil & Chemical Co. has announced the promotion of William B. Mason, former Cleveland sales representative, to district manager of the Chicago office.

Evyan Wins Court Decision

Parfums Evyan, Inc. has won a court decision against a Chicago firm known as Yvonne, Inc., the latter being ordered to desist capitalizing on Evyan's established trade marks. The ruling restrains the defendant from using the names "White Showers," "Most Precious," or "Yvonne" or any other words confusingly similar to the trade marks "White Shoulders," "Most Precious" or "Evyan."

Appoint Byrne, Castillo

Colgate-Palmolive Co. has announced the appointment of two merchandising executives in the toilet article department: Paul Byrne as assistant merchandis'ng manager and Arthur T. Castillo as assistant new products manager.

Essential Oil Assn. Officers

The 1956 slate of officers has been elected by the Essential Oil Association of the U. S. A. More than 170 executives of the member companies attended the association's 28th annual meeting held at the Savoy Plaza Hotel in New York City. Officers elected were:

President, Pierre J. Coutin, president of Ph. Chaleyer, Inc.; vice president, G. Keller, president of Schimmel & Co. Inc.; and secretary-treasurer, F. F. Dittrich, comptroller of Ungerer & Co. Inc. Members of the executive committee are: L. Gampert, Felton Chemical Co., Inc.; R. E. Horsey, Givaudan-Delawanna, Inc.; M. Lemmermeyer, Aromatic Products, Inc.; R. A. Engel, Trubek Laboratories; and F. Lueders, George Lueders Co.

Tislow's CSC Assignment

Marion E. Tislow has joined the Market Development Department of Commercial Solvents Corp., according to an announcement by Dr. Frank E. Dolian, manager of the department. Mr. Tislow, formerly a production supervisor in the company's bacitracin plant, is assigned to the department's technical service section with offices at Terre Haute, Ind.

Pfizer's Asst. Adv. Mgr.

William Charles was appointed an assistant advertising manager of Pfizer Laboratories, it has been announced by E. W. Whitney, advertising director. Mr. Charles joined Pfizer Laboratories in 1953 after working for Paul Klemtner and Co., one of Pfizer's ethical drug advertising agencies.

The Emery Industries, Inc. display booth at the Exposition of Chemical Industries held recently in Philadelphia is the backdrop for a service award presentation as A. W. Schubert, Emery's executive vice president, places a 30-year pin on the lapel of Harry D. Armitage, the company's New York sales representative, while K. K. Boyd, vice president in charge of sales and purchases, looks on. Mr. Armitage was honored in the evening at a testimonial dinner attended by 20 members of the company's sales staff.

Five Appointed by Ciba

William J. Mader has been appointed director of the newly organized product control research section at Ciba Pharmaceutical Products, Inc., it has been announced by Dr. Emil Schlittler, vice president and director of research.

Jed. L. Mees has been named government service manager, according to Vincent A. Burgher, sales vice president, who also has announced the appointment of James C. Webster to the newly created position of survey coordinator in the marketing research division.

Eugene W. Gross and Morton P. Clurman have joined the advertising staff as senior copywriters, Paul W. Roder, advertising vice president, has announced.

Form Stokes Canadian Co.

F. J. Stokes Co. of Canada, Ltd. has been established as a subsidiary of F. J. Stokes Machine Co., Philadelphia, Pa. Francis Dougherty, Jr., president of the American company, will also head the new Canadian subsidiary.

Other officers will be Francis J. Stokes, Jr. and Allan A. Hutchings, vice presidents; David E. Stokes, secretary; and Erwin R. Scott, controller, all of whom hold corresponding positions in the parent company. J. William Robinson, a native Canadian who has been manager of the Stokes Canadian sales office in Montreal since it was opened in April, 1953, will continue in charge of all Stokes Canadian operations.

Burroughs Wellcome Appoints

Appointed superintendent of the chemical manufacturing division of Burroughs Wellcome & Co. is Melvin H. Goff. G. H. Leslie has been named superintendent of the pharmaceutical manufacturing division, in which position he will be responsible for the operations of the compressed products department, the pharmaceutical manufacturing department, the ampul manufacturing department and the drug stock department.

On Pharmacy College Board

Two leading national drug field executives, Leo Bertisch, president of United Cigar-Whelan Stores Corp. and Herman C. Nolen, executive vice president of McKesson & Robbins, Inc., have been appointed as members of the board of trustees of Brooklyn College of Pharmacy, Long Island University, Edward Neimeth, president of the board of trustees has announced.

ROBERT W. MONTGOMERY

Fritzsche Sales Manager

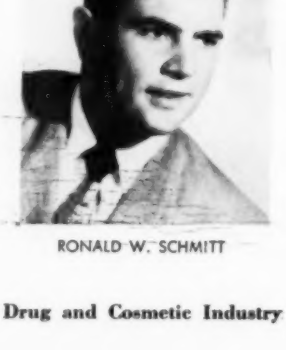
Robert W. Montgomery was recently appointed sales manager of Fritzsche Brothers, Inc. Mr. Montgomery joined Fritzsche Brothers in 1946 after three years service with the U. S. Air Force. He was assigned to the Philadelphia office of the company and spent eight years there in sales. In 1954 he was brought to the main office in New York and continued his work in sales problems.

Appoint Jack E. Jackson

Jack E. Jackson, formerly manager of the sterile solutions division of the Cudahy Packing Co. pharmaceutical laboratory has been appointed sales manager of pharmaceutical laboratory sales.

Appointed by J. H. Day

The J. H. Day Co., Inc., Cincinnati, a division of Cleveland Automatic Machine Co., this week announced the appointment of Ronald W. Schmitt as sales agent for the firm. His territory includes lower Connecticut and eastern New York State, exclusive of New York City.



RONALD W. SCHMITT

Named Roerig Sales Mgr.

Roy McComber has been appointed sales manager of the J. B. Roerig Company, Chicago, Ill., division of Chas. Pfizer & Co., according to an announcement by James W. Bradley, director of sales for Roerig. Associated with Roerig since 1942, Mr. McComber, prior to assuming his new post, served as divisional sales manager of the western area with headquarters in San Francisco. He will be succeeded in San Francisco by Peter Shubunka, formerly a district manager for Roerig in the Los Angeles area.

Appointed by Squibb

Howard W. Baldock has been appointed director of professional promotion and training of the E. R. Squibb & Sons Division of Olin Mathieson Chemical Corp., and J. Norman Silsby has been appointed professional training associate. Dr. Milton N. Donin succeeds Mr. Silsby as associate manager of the Product Planning Department.

Mr. Baldock will continue to supervise the advertising of all Squibb products and in addition will head the division's field representative professional training program. He will be assisted in the latter by Mr. Silsby.

Revlon Appoints Rodriguez

Edmund Buryan, general manager of Revlon International Corporation, has announced the appointment of Jack F. Rodriguez as sales manager for Revlon in Venezuela, with headquarters in Caracas. Mr. Rodriguez is well known in the cosmetic and drug field, having served as export sales manager of Pond's and in an executive sales and promotion capacity with the export divisions of Bristol Laboratories and Upjohn.

Beckwith in New Post

Edmund R. Beckwith, Jr., formerly vice president for marketing of Warner-Chilcott Laboratories, has been appointed vice president for marketing and administration, according to an announcement by Alfred E. Driscoll, president of Warner-Lambert Pharmaceutical Co.

Honored by Anesthesia Soc.

The International Anesthesia Research Society has elected Oscar O. R. Schwidezky, director of research of Becton, Dickinson & Co., to honorary membership in recognition of his "long, continued interest in the society and the development of the practice of anesthesiology."

ROBERT S. WHITESIDE

DR. R. C. SHERWOOD

WILLIAM X. CLARK

Whiteside Heads Sterwin

Election of Robert S. Whiteside as president of Sterwin Chemicals Inc., a subsidiary of Sterling Drug Inc., has been announced by J. Mark Hiebert, president of the parent organization. Mr. Whiteside succeeds the late P. Val. Kolb who died in December in Rock Hill, S. C.

Dr. Reginald C. Sherwood has been named vice president and technical director, and William X. Clark, vice president in charge of sales.

Bristol's Control Director

Dr. Harold A. Frediani has been appointed to the newly created position of executive director of control at Bristol Laboratories Inc., according to an announcement by Dr. P. I. Bowman, executive vice president of the company. In his new position, Dr. Frediani will be in charge of all control operations for Bristol Laboratories.

Upjohn Promotes Three

Three promotions in Upjohn Company's sales staff were announced by W. F. Allen, vice president and director of sales. John W. Schma, who had been sales manager of the company's Chicago branch, was appointed regional sales manager. R. A. Thompson, who had been a divisional sales manager of the Chicago branch, will succeed Mr. Schma. Another Chicago divisional sales manager, V. R. Facciuto, will assume the duties of sales manager of the Cincinnati branch when it opens.

Elect Moffitt, Hooker

Thomas E. Moffitt has been elected executive vice president and a director, and R. Wolcott Hooker has been elected senior vice president of Hooker Electrochemical Co. The announcement was made by Bjarne Klaussen, president, following a board meeting Jan. 18 in Niagara Falls.

Parenteral Drug Assn. Slate

The Parenteral Drug Association has elected L. James Graham of Burroughs-Wellcome & Co. as president of the association for 1956. Other officers elected are:

Vice president, Dr. Harold Blumberg, Endo Products, Inc.; regional vice president, William S. Bucke, Lafayette Pharmacal Inc.; secretary, Walter S. Konwiser, C. F. Kirk Co.; and treasurer, Joseph W. Kouten, Carroll Dunham Smith Pharmacal Co.

Directors of the Association for 1956 are Dr. David M. Ashkenaz, Wyeth Laboratories Division, American Home Products Corp.; Raymond W. Barton, Mead Johnson & Co.; Max Gold, Gold Leaf Pharmacal Co.; Joseph F. Greene, Kimble Glass Division, Owens-Illinois Glass Co.; Paul de Hahn, Ames Company; John Henderson, Chase Equipment Corp.; Dr. Anton K. Maier, Sandoz Pharmaceuticals Division, Sandoz Chemical Works, Inc.; and F. C. Ninger, Warner-Lambert Co.

Named Searle Exec. V.P.

John G. Searle, president of G. D. Searle International Co., has announced the appointment of Wesley M. Dixon, Jr. as executive vice president. In his new responsibility, Mr. Dixon will direct Searle's sales in all parts of the world other than the Western Hemisphere. He will also be liaison between the parent company and its British subsidiary.

Move Pharma-Craft Hdqrs.

Pharma-Craft Corp. has moved its executive offices from New York to Batavia, Ill., where its factory is located. Increased business and the introduction of new products prompted the decision to consolidate operations, according to Frank F. Bell, president.

Perfumers' Soc. Election

Officers, a chairman of the board and one director were elected by the American Society of Perfumers, Inc. at its annual meeting, held Jan. 18 at the Advertising Club in New York. Christian F. Wight is the 1956 president and Ernest Shiftan, the new chairman of the board. Both are from van Ameringen-Haebler, Inc.

Pierre Bouillette, Givaudan-Delawanna, Inc., was elected vice president; Dr. Oliver L. Marton, Shulton, Inc., secretary; Edwin D. Morgan, Lever Brothers Co., treasurer. Kenneth H. Walker, Manhattan Soap Co. was elected a director for a three year term.

Directors retaining office are Theodore Bumiller, Jr., Givaudan-Delawanna, Inc.; Paul H. Lelong, Firmenich, Inc.; Maurice A. Meunier, Les Parfums de Dana, Inc.

Chemical Salesmen's Assn.

Installed as president of the Salesmen's Association of the American Chemical Industry at a luncheon held Jan. 18 in the Biltmore Hotel, New York, was E. L. Collins, iodine sales manager for the Chilean Nitrate Sales Corp. Other officers of the 800-member group installed were:

Vice president, Vincent L. Rebak, New York Sales manager of the Grace Chemical Co.; treasurer, Robert J. Roberts, New York sales representative of Emery Industries, Inc.; and secretary, James E. Spencer, eastern sales manager for Harshaw Chemical Co.

Directors installed were Joseph R. Augello, Washine National Sands, Inc.; Charles E. Griffith, R. W. Greeff & Co. Inc.; Lester E. Johnson, International Nickel Company; W. Gilbert Kayser, Jr., Sharples Chemicals, Inc.; and Herman M. Schulman, Washine National Sands, Inc.

for
pharmaceuticals,
food and feed enrichment...
high purity

VITAMINS

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Are vitamins an ingredient in your formulations? You are invited to investigate the advantages of Baker as a source of supply: convenience, reliability, economy—plus the high purity associated with the Baker name and label.

PRECISE BAKER STANDARDS PROTECT QUALITY

The high standards of Baker vitamins are an important factor in helping to safeguard the quality of your finished product. All Baker vitamins conform to rigid specifications, established to protect the appearance and therapeutic efficacy of your product—and to provide ease, economy and speed of handling with modern processing equipment.

PROMPT SHIPMENT IN CONVENIENT CONTAINER SIZE

Baker vitamins are stocked in several convenient container sizes for prompt shipment from either Phillipsburg or Chicago. All orders are carefully checked, expertly packed and shipped to arrive on schedule. All your requirements receive the cooperative attention of the Baker representative who calls on you. For further information and Product Data Sheets, write or phone.

Which of these **Baker** *high-purity vitamins are important to your formulations?*

CALCIUM PANTOTHENATE (DEXTRO CALCIUM PANTOTHENATE), Powder
CHOLINE CHLORIDE, Crystal
CHOLINE DIHYDROGEN CITRATE, Crystal
CHOLINE BITARTRATE, Crystal
NICOTINAMIDE, U.S.P. (NIACINAMIDE), Powder
NICOTINIC ACID, U.S.P. (NIACIN), Powder
PYRIDOXINE HYDROCHLORIDE (VITAMIN B_6 HYDROCHLORIDE), Powder
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Schlittler Is Ciba V.P.

Dr. Emil Schlittler has been appointed vice president and director of research of Ciba Pharmaceutical Products Inc., Summit, N. J., according to T. F. Davies Haines, president. Dr. Schlittler has become internationally well known for his work in alkaloid chemistry and more specifically for the isolation and identification of reserpine from Rauwolfia serpentina.

He joined Ciba in 1934 as a chemist on the research staff of the parent organization, Ciba Limited, Basle, Switzerland. In 1950 he was made a vice director of the Swiss firm. At one time an associate professor of chemistry at the University of Basle, Dr. Schlittler came to Ciba-Summit in 1953 as director of the Chemical Research Division, and later he was named director of research.

Max Factor Sales Division

Max Factor & Co. has announced the merger of Sales Builders, Inc., its former sales and distributing organization, into the operations of the parent company as the Max Factor United States sales division.

Maurice R. Chez, director of Max Factor & Co. and former head of its Sales Builders division, has been elected vice president in charge of the newly formed sales division. Kenneth D. Caldwell, Max Factor's director of advertising for many years, has been elected vice president in charge of United States advertising.

Changes in C&CC Posts

Changes in the industrial chemicals sales organization of Carbide and Carbon Chemicals Co. have been announced by E. E. Fogle, vice president of the company. M. W. Duncan has been appointed manager of the Kansas City district; T. F. Grady has been transferred to the Denver sales office as technical representative; R. E. Gustafson has been appointed technical representative in the Chicago district; M. H. Mackay has been transferred to the Chicago district office as an inside salesman.

Promoted by Mead Johnson

William H. Derbins has been promoted by Mead Johnson & Co. from sales representative in New Orleans to sales promotion editor in the firm's home offices, Evansville, Ind.

RAYMOND M. COVENEY

Heads CSC Sales District

Raymond M. Coveney has been named manager of the Boston sales district of Commercial Solvents Corporation's industrial chemicals department, it has been announced by Frank Maple, general manager of the department. Mr. Coveney will direct the company's sales operations on industrial chemicals in the New England states. He will continue to make his headquarters at 50 Terminal Street, Boston.

Houghton in New Post

White Laboratories, Inc. has announced the appointment of Fred E. Houghton as director of therapeutic research. The new position has been established to effect a closer liaison between White Laboratories and physicians engaged in evaluating the therapeutic efficacy of White's pharmaceutical specialties.

Dr. Karr Joins Squibb Inst.

Dr. Norman W. Karr has joined the Squibb Institute for Medical Research as an assistant to the director of the research and development laboratories, it has been announced by Roland J. Dahl, vice president for research and development, E. R. Squibb & Sons.

Dr. Adolph Eichhorn

Dr. Adolph Eichhorn, consultant and former head of the veterinary department of Lederle Laboratories, died Jan. 23 in Miami Beach, Fla. He was 82 years old.

M. Martin Gordon

M. Martin Gordon, 69, co-founder of the Princess Pat Cosmetic Co. and president of Gordon Gordon, Ltd., manufacturing chemist, died Dec. 24 in Chicago. Surviving are his widow, Mrs. Patricia Gordon; a brother and three sisters.

Ellery W. Mann

Ellery W. Mann, founder and president of Tampax, Inc., died Jan. 15 at the age of 65. Prior to founding the Tampax concern, he had been president of Zonite Products Corp.

A native New Yorker, Mr. Mann had been a resident of Garden City, N. Y. for more than 25 years. At the age of 21 he went to work for the old Standard Oil Company under J. I. C. Clark who handled press relations for the company and shortly afterwards was transferred to the advertising department, then managed by Harrison K. McCann. Following the Supreme Court decree which dissolved Standard Oil in 1911, Mr. Mann went to work for the H. K. McCann Co., founded by Mr. McCann and later to become McCann-Erickson, Inc. Specialization in the drug field led Mr. Mann to the presidency of Zonite.

He is survived by his widow, Mrs. Marion E. Mann; two daughters, Mrs. Emma Williams and Mrs. Marion Hawkes; a son, Ellery W. Jr., who is a vice president of Tampax, and eight grandchildren.

James F. Thompson

James F. Thompson, vice president of Sterling Drug Inc. in charge of the Hilton-Davis Chemical Co. Division, died Jan. 18 in Cincinnati. He was 55.

He joined the chemical company in 1923 as a chemist, became vice president in charge of production in 1942 and was elected vice president of Sterling Drug and general manager of Hilton-Davis in 1949.

Surviving are his widow, Mrs. Edna Weaver Thompson; two sons, George and Robert; and two sisters, Mrs. James Rogers and Mrs. Florence Thompson.

Dr. Frederick Zinsser

Dr. Frederick Zinsser, organizer, former president and chairman of the board of Zinsser & Co., Hastings-on-the-Hudson, N. Y., died in that city Jan. 21 at the age of 87. He was also president of Ultro Chemical Co.

A colonel in the chemical warfare service during World War I, Dr. Zinsser directed the building of a mustard gas unit as a branch of Edgewood arsenal.

Brother of the late Dr. Hans Zinsser, professor of bacteriology and immunology at Harvard Medical School, he is survived by a son, John Sharman Zinsser, chairman of Sharp & Dohme, Inc., a division of Merck & Co.

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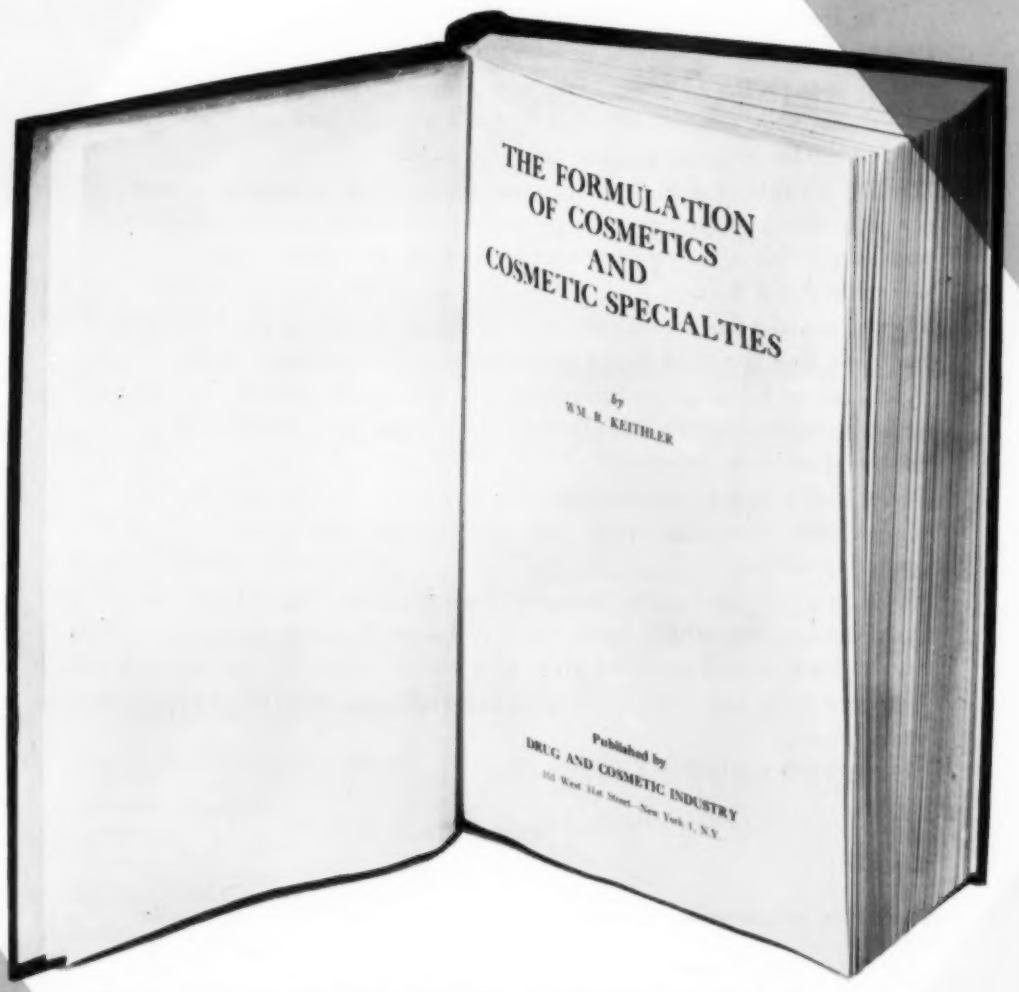
THE FORMULATION OF COSMETICS AND COSMETIC SPECIALTIES by Wm. R. Keithler



This is an entirely new book of cosmetic formulation and manufacturing methods.
It contains all the newer developments in cosmetic formulation and processes.

For **CHEMISTS . . . COSMETIC TECHNICIANS . . . EXECUTIVES . . . STUDENTS**

Examine the table of contents and check the broad scope of this new book

The Formulation of Cosmetics and Cosmetic Specialties, published by The Drug & Cosmetic Industry, is the first completely new cosmetic formulation book published in over five years.

During this period of time, many new products, formulations, and techniques were developed because of the research and experimentation carried on by large and small cosmetic manufacturers.

Wm. R. Keithler has included within this book all these most recent cosmetic developments and has presented this information so clearly and simply that even one not connected with the industry can understand the text.

There have also been considerable new developments in the field of raw materials that are used in the manufacture of cosmetic products.

Synthetics and specialties have appeared during the past five years which have resulted in entirely new types of products and have also improved existing types.

These new materials are discussed in this work and should prove of considerable value in bringing your cosmetic line up-to-date with present general practice.

To those newcomers in the industry, here is a book that, because of its complete coverage of the industry, and the simple easily followed instructions, should prove of great and lasting value.

With this book you will have a firm, thorough understanding of cosmetic manufacture.

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Colognes
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Cold Cream
Cold Sore Stick
Color Rinses
Compact Powder
Corn Removers
Cosmetic Stockings
Creams
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Cuticle Softeners
Dentifrices
Deodorants
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Eyebrow Pencils
Eye Preparations
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Foot Preparations
Foundation Cream
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Lip Make-up
Lipsticks
Lotions
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Make-Up Preparations
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Mascara
Mouth Antiseptics
Mouth Washes
Nail Cosmetics
Pancake Make-up
Paste Rouge
Perfuming Cosmetics
Permanent Hair Straightening
Permanent Hair Waving
Powders, After Shave
Pre-Shave Lotions
Propellants
Protective Creams
Quatenary Ammonium Compounds
Repellents
Rolling Creams
Rouge Cake
Rouge Cream
Shampoos
Shaving Aids
Shaving Creams
Sunburn Preparations
Suntan Preparations
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Tooth Powders
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Wart Removers

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THE
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aromatic chemical
musk-tonkin type
lasting, economical

Useful addition to present standard fixatives

Does not discolor perfumes, creams, soaps, and other cosmetic preparations

Like a string around a package, it...

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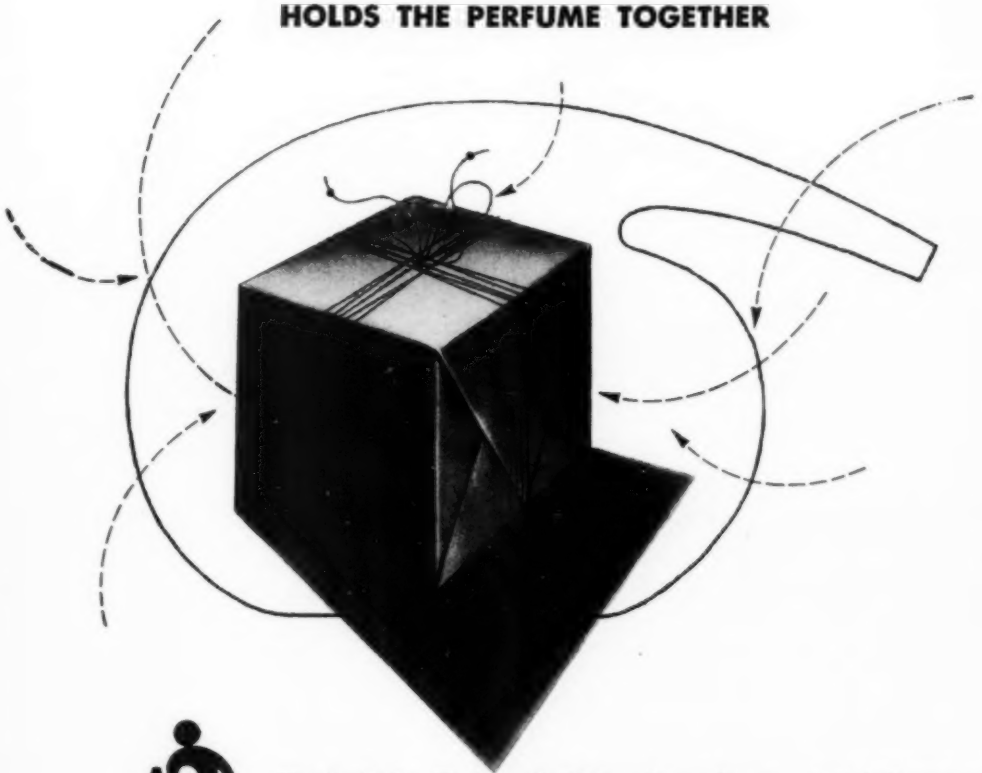

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Quality PCC for Dentifrices—Sturge PCC forms stable dispersions in glycerine-water mixtures. Gives you a chemically inert controllable polishing agent without taste or grit.

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Management Forum

by Francis Chilson

INDUSTRIAL CONSULTANT

Brass Hats

When I recently castigated our Navy's Brassheads for their costly blunders in building aircraft, submarines and aircraft carriers, I fully expected that somebody would lambaste me on the ground that our military officials are sacrosanct and ought not to be so caustically criticized. During the war I worked a good bit with Army and Navy officials, especially career officials, and the best I can say of them is that they were almost without exception hidebound bureaucrats trussed up in red tape. I was quite pleased to get a laudatory letter from Mr. Edward C. Moore, President of Edward J. Moore Sons of Long Island City. Mr. Moore sent me some articles about the work of John L. Bogert, who is a naval architect by profession. In 1917 when submarine warfare was at its height, Bogert designed the first baby flattop and he outlined to the Navy, the modern escort carrier strategy to protect convoys, which was so successfully used in World War II. It is needless to say that his ideas were turned down flat. As the result of Naval stupidity 35,000 human beings lost their lives and 23,000,000 tons of Allied shipping were sunk. The Navy was committed to the idea of building ships faster than they could be sunk. Similar stupid tactics were followed in the early years of World War II. But not until Henry J. Kaiser got hold of the same idea that anything was done about it. He too, was turned down flat, and it wasn't until Kaiser appealed directly to Roosevelt that anything was done. He got an order in 1942 for 100 CVE, escort carriers. The Navy opposed the order and finally canceled 50. In 1942 Allied shipping losses, mostly ours, were eight and a quarter million tons. These facts were brought out by Kaiser himself before Senator Homer Ferguson's Subcommittee of the Senate July 29, 1947, and reported in the Congressional Record.

The unwillingness of the high military brass, particularly the Naval brass, to accept new concepts is also attested by the career of Billy Mitchell.

Stainless Steel Tubing

Cooper Alloy Corp., Hillside, N. J. makes stainless steel tubing and quick-lock connections. The tubing is much less expensive than conventional stainless steel piping. It is easier to install and much easier to change when the need arises. My friend Nick Fowler, Chief Engineer of Shulton has used a lot of it with excellent results and I am indebted to him for bringing it to my attention.

Basic Methods

This is the name of a new materials handling company, presently located at 18 Barnsdale Road, Short Hills, N. J. Last month I described one of their new items, the DUMPIT, which is a gadget that enables a fork truck operator to pick up and dump drums, barrels, bins or whatever, without causing him to leave his seat. He simply picks up the Dumpit, tightens a couple of clamps and he is ready to start picking up drums. I know the president of this outfit. I used to work with him. He's a very ingenious engineer with a world of varied experience in handling materials. The Dumpit is but one of a long series of gadgets that are in course of development and will be brought to your attention as soon as they are available.

English Factories

I am working on a plan to develop English Factories for American clients. This service will extend from the purchase of land, straight through design and construction including architecture. In other words I am prepared to consider what you want and will then in due course deliver a finished package, complete, operating *and financed.* I am particularly interested in the financial end of it but this service o

Finicky Caps Fitted
automatically...

and fed with the gentlest action known!

PNEUMACAP

Gently "squeezed" and turned by the air activated neoprene doughnut in PNEUMACAP's new air chuck, the most delicate cap can meet no harm. What's more, cap variations and difficult designs are handled in stride with this remarkably flexible chuck. Adjustment is automatic!

Teaming up with advanced cap turning design in PNEUMACAP is the Sterling Cap Feeder which eliminates all "churning" action, delivers caps on call. NO jams, no breakage—no baskets required to catch unused caps.

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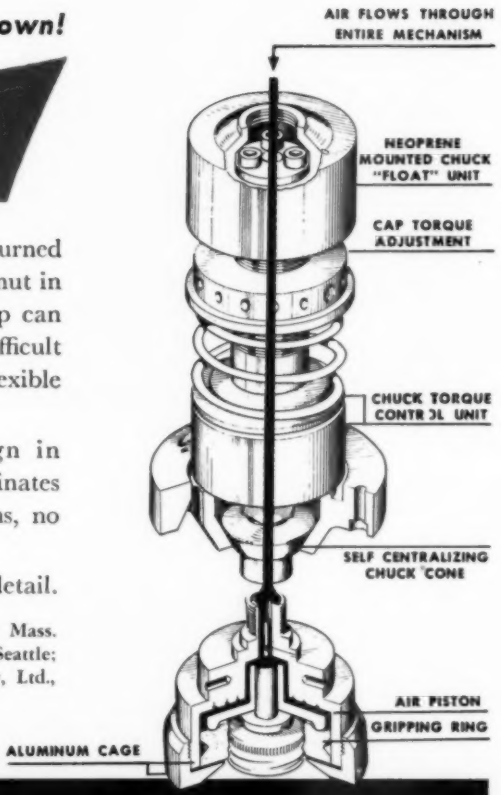


"Sterling Feeder at left handles caps up to 89 millimeter diameter. Another model is available for sizes up to 33 millimeter, as shown on Pneumacap-Four machine pictured above."

PNEUMATIC

Packaging and Bottling Equipment

course must be limited to companies of substantial size and unquestionable credit standing in this country. When financing is not required all such projects are handled on the customary fee basis. With the experience and connections I have in England, financial and otherwise, there is no question but that I can save your firm a lot of money. American firms have made some godawful blunders getting established in England. So make sure your export manager and your president sees this notice.

Tablet Making

It is funny how slowly changes take place in an old art. I say "art" advisedly because the old timers regarded tablet making as such and have resisted all efforts to rationalize the process. I ran into an old timer about twenty years ago who insisted that it was not possible to make high quality tablets unless the granulation was made by hand. I introduced standard oscillating granulators but he wouldn't use them, so, finally I had to demonstrate the equipment myself. As I was doing so the president of the firm passed through and wanted to know what the hell I was doing. I told him I was demonstrating that a machine which had been in use as standard equipment throughout the trade for twenty years actually would work. The old boy cast one withering look at the superintendent of the tablet department and said to me, "Put on your coat and get the hell out of there." It is needless to say that from that moment on the tablet maker discovered that the machines would work all right. Believe it or not but this incident happened in one of the largest tablet plants in the country. I had even more trouble when I introduced the Fitpatrick comminuter twenty odd years ago, getting the old timers to switch from oscillating granulators to a more versatile machine of an entirely differnet operating principle.

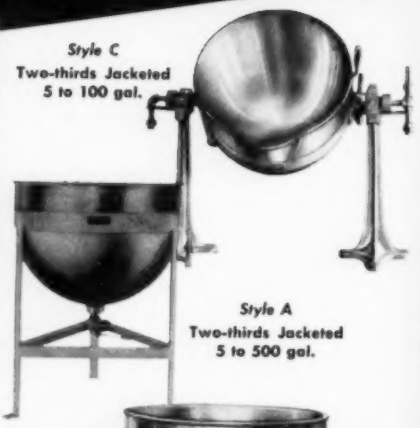
Compression coating is now getting quite a play. It is the obvious step forward in the manufacture of coated tablets. I did it successfully for Grove Laboratories in 1933. This firm wanted to introduce a coated Bromo Quinine tablet with the initials LBQ embossed on both sides. Obviously this could not be accomplished through the use of embossed tablet centers in conventional coating pan. So I made some centers as nearly spherical as possible and rigged up a standard tablet press so that bottom coating, tablet centers and top sugar were fed into the dies seriatim. Then the loaded dies passed under the compression heads and the finished, coated, embossed tablets were ejected. The tablets were rejected by the management because it was thought that they still looked too much like uncoated tablets because of their flat edges. After the rejection this procedure was, over the years, written up in this column but nobody seemed to be interested in perfecting what was initially a comparatively crude procedure.

It took me several years to get some of my clients to use wetting agents to assist in rapid tablet disintegration. This seemed to me a logical step since the trade has made a fetish of rapid disintegration. The addition of a small amount of wetting agent to the starch makes all the difference in the world.

When I first introduced the Lectrodryer to the trade for the purpose of providing standardized air to coating pans I had a hell of a time with some of the old time coaters. Coating pans used to be provided with both hot and cold air. It is needless to say that the humidity of both the hot and the cold air varied all over the lot. The old line coater would blend the air at the pan with a mixing damper and when they got that certain "feel" by letting the mixed air blow on their elbows or on the back of their hands, the coating proceeded. Far be it from me to decry a feel as a means to an end but I maintain it has no place in coating tablets.

The same thing happened when I introduced the notion of using drying closets, equipped not only with means of heating and circulating air uniformly but also with humidistats which would cause spill dampers to open when the humidity of the recirculated air reached a certain point. Tests showed that materials which required ten or twelve hours to dry could be dried perfectly in three. Rolled pills which formerly took five to six days to dry could be dried in from three to eight hours depending upon the density of the pill mass. But I found that the old timers like to use their drying closets as storage rooms. They don't like to stick to a close schedule. They like to have plenty of drying closets or "ovens" in which granulated material can stay, anywhere from twenty-four hours to three days, just as it used to do when tablet departments were equipped with big dry rooms into which all sorts of materials were shoved in indiscriminately, except of course when there was danger of serious odor contamination. When a dryer is used as a storage room, it happens inevitably and frequently that the heat and air are not turned off soon enough and the material becomes too dry to run on the presses. I've known cases where the heat was turned off and the fans weren't so that a change in outside humidity caused the lot to re-wet itself. There are many installations where several dryers are hooked up with one circulating and heating system. This means that the drying time for the battery is determined by the time required to dry the last lot in. I saw one beautifully stupid installation where the air exhausted from the coating pans was recirculated through a battery of drying closets. This meant that when anything odoriferous or dye containing materials were being coated, the dryers had to be closed off. Since this happened frequently it meant that both the coating department and the drying department worked alternately. This installation was made by a steam plant engineer, who by tests had shown that the air exhausted from coating pans had still a lot of heat in it and very little moisture. Therefore it seemed

COOKING KETTLES

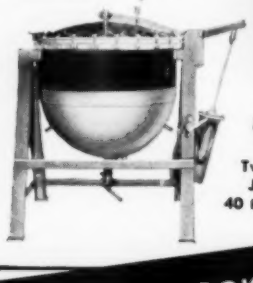


Style C
Two-thirds Jacketed
5 to 100 gal.

Style A
Two-thirds Jacketed
5 to 500 gal.

Style B
Full Jacketed
10 to 300 gal.

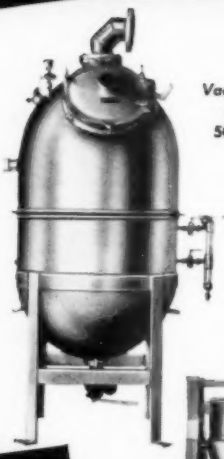
Style CW
Two-thirds Jacketed
80 to 300 gal.



Pressure Kettle
Two-thirds Jacketed
40 to 200 gal.

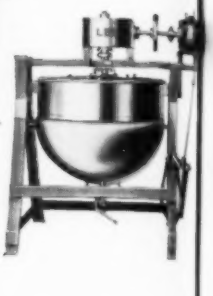
MIXING AND BLENDING UNITS

CW3T
Center-line Scraper Agitator Kettle
80 to 300 gal.



Vacuum Pan
50 to
500 gal.

D3T
Center-line Scra
Agitator Kett
25 to 300 ga



Quick Cooling Pan
50 to 200 gal.

these LEE Units

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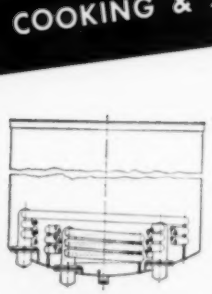
MIXING, COOKING & STORAGE TANKS

Mixing Tank
25 to 500 gal.



Pulp Tank
500 to 2,000 gal.

Storage Tank
100 to 5,000 gal.

LEE METAL PRODUCTS CO., IN

408 PINE STREET,
PHILIPSBURG, PA.

ALL LEE KETTLES ARE MADE TO A.S.M.E. CO

logical to him, since he knew nothing about the industry, to connect the dryers and the coating pans. But why the plant management ever accepted the arrangement only God knows. All dryers should be equipped with dehumidified air and should be operated as machines not as storage rooms.

At the moment I am doing some research to see if it isn't possible by electronic means to control the pressure exerted by tablet presses. Pressure variation in the main comes from lack of uniformity in the granulation, but there are other reasons, too, and I am not convinced that the pressure of an operating press cannot be controlled automatically. We shall see.

Committees

Since a committee is a perpetuated conference, I would like to quote a poem given me by my friend, Donn Berry, Town Clerk, of the Borough of Slough, west of London. (He said he pinched it from The Lancet.)

"It's a thousand pities
And one of the worst of menaces,
That all committees
By a sort of parthenogenesis,
Almost at once
And as if to prove their worth,
Quite impervious to snubs,
Immediately give birth
To at least four little 'subs'.
Wherefore I have often thought
That it would be rather nice,
If all new committees could be caught
And fitted with a contraceptive device."

Quarter Century

I can now look back upon a full quarter century of consulting practice in the pharmaceutical, cosmetic and allied industries. My work has been varied and interesting. It has been all embracing in that it covers every phase of the pharmaceutical industry both ethical and proprietary. The same thing can be said of the cosmetic industry. One outstanding impression is that these industries, and in particular, the pharmaceutical industry, are composed of a very fine group of people. I have encountered some cheap chiselers but so few, that they may be taken as the exception that proves the rule. My work has taken me all over the world and into firms ranging in size from hundreds of millions annually all the way down to little outfits. Oddly enough there are still many prominent officials in both industries, whom I've known casually for years, who think that I am only an editor and that my business as a consultant is merely a sideline. This merely goes to show how little of what people read or hear really registers. That's human nature; that's what makes people interesting. That's what makes the consulting business fascinating.

I have been writing this column for an equal period of years. For most of those years it has been a serious burden because I simply have not had sufficient time to devote to it. In the early years when business was notable for its scarcity, I did have time to write and the column was then a damned sight better than it is now. But the column has had inestimable value in developing many friendships all over the world. My correspondence with people whom I have never met is large and sometimes voluminous, especially when I take up the cudgels with some ism or joust with some of Mr. Bigboss' favorite prejudices. I never attend a convention or a meeting without making the acquaintance of somebody who recognizes my handsome puss from the photograph at the head of this column.

At the end of my first quarter when I should be slowing down I am speeding up. How long these old bones can stand the pace I do not know.

Improved Autrometer

A new improved Norelco Autrometer, multi-element indexing X-ray Spectrograph, covers a range of 71 elements in the atomic scale and gives percentages of as many as 24 in a specimen, has been announced by the Research & Control Instruments Division, North American Philips Company, Inc., 750 South Fulton Avenue, Mount Vernon, N. Y.

Program selectors are provided for the indexing positions so that data on individual elements may be obtained in sequential order. Any one or more of the positions may be by-passed in an analysis operation by switching off the proper selectors. After a sequence is completed, selector settings may be retained for use on similar specimens or may be changed to accommodate different conditions. All operations are handled from a console desk.

The goniometer has been designed for automatic scanning. Each indexing position can be adjusted for maximum intensity level on a given element and a rate-meter is provided to facilitate such settings. At

it takes a PRO

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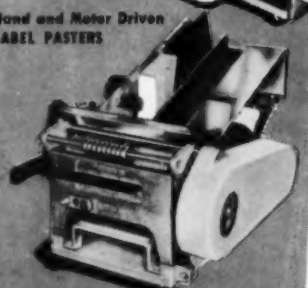
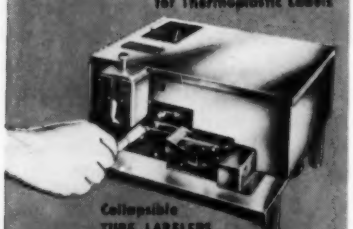


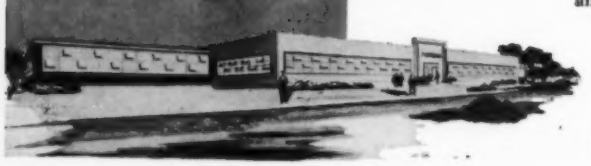
Semi-Automatic Feed LABEL PASTERS

LABEL ACTIVATORS for Thermoplastic Labels



Collapsible TUBE LABELERS

Vial and Ampule LABELER and CODER



Ideally suited for short-run production or for auxiliary use so as not to disturb a mass production set-up. Write for literature and details on **FREE TRIAL OFFER.**

Hand and Motor Driven LABEL PASTERS
Highly versatile, handles any shape label without adjustment. Dial control regulates paste flow, eliminating excess. Cuts stock loss. One machine can supply several operators. Available in 6"-8½" models.

Semi-Automatic Feed LABEL PASTERS
Quickly adjustable to all shapes of labels, from ½" to 7½" wide. Dial regulates paste flow. Speeds production up to 50%. Suitable as auxiliary unit in mass production operation. Leaves mass production equipment undisturbed.

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Activates delayed tack, pre-coated labels quickly and evenly. Permanent labeling on glass, metals, plastics, fabrics, etc. No water or glue to smear product. Thermostatic heating control. Small and portable. Available for 6" and 12" widths. Motor driven.

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Applies 32 slip labels per minute to collapsible tubes. Automatically forms and ejects label on tube. Machines for ⅛, ¼, ½, 1 oz. tubes.

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Thermoplastic labelers in 1, 2, 3, 5 and 10 c.c. sizes. Hopper automatically feeds vial or ampule for labeling and coding.

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the end of a cycle, the goniometer repositions itself to zero and rests until a new operating sequence is initiated. There is no limitation on the minimum angular spacing between adjacent element positions. When necessary, they may be set a fraction of a degree apart.

A horizontal metal disc rotates inside a leaded-bronze ray-proofed housing and serves to transport specimens into the path of the X-ray beam. The disc rotates on a shaft that extends through the top of the housing and a knob permits manual control by the operator. The disc has two openings that accommodate specimen holders measuring 1-3/8 inches in diameter by 1-3/8 inches deep. One holds the standard and the other the unknown.

In the new design, the X-ray beam strikes specimens from below and this facilitates work with liquids. The instrument is built to accommodate helium in the X-ray path and scintillation or proportional counters may be used for detection. A scintillation counter is normally employed because it has high resolution, indefinite count life, negligible dead time, and a wide spectral sensitivity for all wave lengths. The proportional counter may be used for softer radiation.

The Autrometer functions automatically once the standard and unknown specimens are in place and the specimen disc has been turned manually to operating position. The mechanism alternately exposes the standard and unknown to the X-ray beam for equal intervals of time. Electronic circuits count the pulses and convert the information into a number. This number compares element quantities in the unknown with those in the standard. The printer records this ratio on tape along with the channel number.

Two separate cabinets are used to house the Autrometer. The main unit measures 54 inches wide by 55 inches high by 36 inches deep. The console is 24 inches wide, 48 inches high and 24 inches deep. On the front panel of the main unit are a circuit breaker, an Ma meter, start-stop buttons and a pilot light for the X-ray tube.

The console has three panels, upper vertical, sloping and lower vertical. The upper vertical panel contains 24 selector stations. Each has an element tag, pilot light for indicating channel number, and two knobs. One is for controlling Ma and the other for changing the percentage factor.

The sloping panel has a master key switch, on-off buttons for controlling power supply on the entire instrument and a pilot light. There is a ratemeter which is used in setting the percentage factor knobs on the 24 element stations, a start button which initiates the program cycle, and a printer which registers the results on tape.

The X-ray tube is water-cooled and is located inside the housing directly over the power supply unit. It has a tungsten or molybdenum target and beryllium window to provide an output of intense, high-purity radiation suited to high speed work. X-ray tube maximum ratings are from 100 Kv, 25 Ma through 50 Kv, 50 Ma.

The high voltage transformer is positive end grounded, delivering up to 50 Ma at voltages up to 100 Kv. Full wave rectification assures long X-ray tube life. Capacitors within the transformer reduce ripple and increase over-all efficiency. High tension windings, rectifier tubes, filament transformer and condensers are completely immersed in insulating oil. The assembly is enclosed in a heavy, welded steel tank. Water is used to cool both transformer and X-ray tube and the cooling system is accessible for easy installation, draining and X-ray tube changes.

A stepless voltage control is provided, with a range from 15 to 100 Kv. This allows a flexible choice of excitation levels which are read on a Kv meter mounted on the control console. An Ma meter is included to show current changes which can be made in steps from 1 to 50 Ma. A voltage regulator and an Ma current stabilizer are built into the new Norelco Autrometer to assure constant X-ray output.

Tablet Coater and Polisher

An improved design of No. 16 Colton Tablet Coating and Polishing Stand featuring a built-in fluid drive is now available from Arthur Colton Company, 3400 East Lafayette Ave., Detroit 7, Mich. The power unit for the machine, Fig. 1, has an integral, totally enclosed drive that includes a 1-hp electric motor, a

fluid coupling and a geared speed reducer. Application of this unique drive is the result of a joint development program by Arthur Colton Company and Parke, David & Company engineers.

ARE YOU GAMBLING ON PROTECTION?

AGAINST FIRE –

For example—sprinkler systems in two completely unrelated cold storage plants were found to be frozen up solid—so-called DRY systems, filled with compressed air to prevent such a catastrophe. But the air carried vaporous moisture, which froze and sealed off the water supply lines.

Luckily, the fire inspectors tested one of the lines. It took an entire year to thaw them out, after which the owners installed a Lectrodryer* alongside the air compressor. Since it dries the air to a -40° dewpoint, there will be no further freezeups.

AGAINST DETERIORATION –

Warehouses hold products under lock and key to safeguard them against pilferage. But high humidities cause steel stored there to rust, chemicals to depreciate, wood and fabrics to rot, foodstuffs to spoil. Wise operators seal their buildings against infiltration of moisture-laden air, then install Lectrodryers to DRY those areas. The Armed Services proved that, in a relative humidity below 30%, there is not sufficient moisture to cause deterioration.

AGAINST SLOW-DOWNS –

Plant engineers use every device to make manufacturing operations produce at top speed, often forgetting DRYing as a production tool. Lowering and controlling the moisture content of air, gases and organic liquids involved can keep processes on the straight and narrow path, speeding them up, while holding quality high. Lectrodryers do that DRYing.

Protective DRYing is described in the book, *Because Moisture Isn't Pink.* For a copy, write Pittsburgh Lectrodryer Corporation, 309 32nd Street, Pittsburgh 30, Pennsylvania.

In England: Birlec, Limited, Tyburn Road, Erdington, Birmingham.
In France: Stein et Roubaix, 24 Rue Erlanger, Paris XVI.
In Belgium: S. A. Belge Stein et Roubaix, 320 Rue du Moulin, Bressoux Liege.

LECTRODRYERS DRY
WITH ACTIVATED ALUMINAS

LECTRODRYER

*REGISTERED TRADEMARK U S PAT OFF.

The fluid drive in the power unit enables a pan containing a load of tablets to be coated or polished, to be brought up to speed smoothly, thus avoiding starting shock loads that can cause non-uniform coatings or cracking of tablets. Similarly, the drive enables the loaded pan to slow to a smooth stop after the power has been shut off, and, thus avoids deceleration shock loads. Long life of the gear drive is assured by the elimination of starting and stopping shock loads by the fluid coupling.

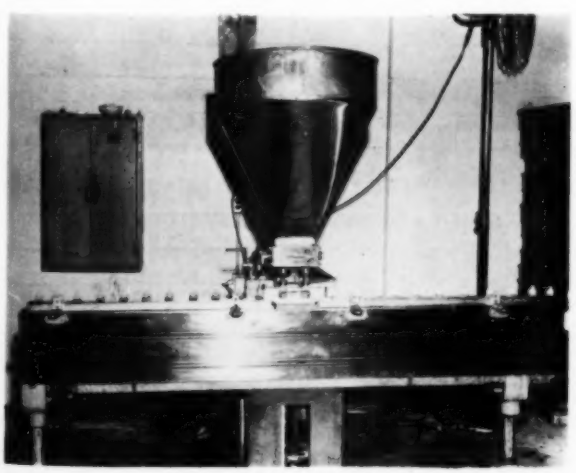
When the pan is brought up to speed, the controlled slip features of a fluid coupling prevent pan drive slippage. Variation of fluid fill level in the coupling enables the speed of the pan to be adjusted to desired speeds between 23 and 27 rpm.

The pan driveshaft is supported by two double-row pillow block anti-friction bearings. The base of the machine is a welded structure. Galvanized pans with canvas linings having diameters up to 48-in. are available for polishing operations. Galvanized, stainless steel and copper pans up to 48-in. diameter can be had for coating operations. An optional foot pedal starting and stopping switch connected to the stand by a flexible cable can be had.

The Colton Coating stand occupies a 5½ ft. by 4 ft. floor space and is 5½ ft. high overall with a 48-in. dia. pan.

Filling Machine

A versatile filling machine for quick, easy changeover from size to size, bottle and jars to plastic bottles in minimum time now is in operation at the Beco Laboratories, St. Paul, Minnesota, custom packers exclusively for drugs, cosmetics and chemicals. This fully automatic "Simplex" Model T Filler is used to fill four oz. plastic bottles of a nationally-distributed glue product. The plastic bottles automatically feed directly on to a capper and in some cases where containers are labeled through a labeling machine. This twin piston filler dispenses at a rate of 30 to 60 containers per minute, has acid-resistant contact parts, deposits from 4 oz. to quarts and can be dismantled for cleaning in less than five minutes. Fills liquids and semi-solids. Manufactured and sold by F. L. Burt Company, 571 Seventh Street, San Francisco, California.



Potdevin Machine Exhibit

The Potdevin Machine Co. will display the following machines in booths No. 211, 213, 215, at the 1956 Packaging Show, April 9-12, in Atlantic City:

Coating machine with semi-automatic friction demand feed, available with either hand or foot control; a machine geared to point-of-purchase advertising requirements—the automatic Single Wing-Easel Coater feeds single-wing easels from a hopper; conveyor gluer for application of self-seal adhesives in production of new plastic blister card packages; Topside Overall or Margin Gluer, suitable for high speed production since it coats top side up, one machine can supply coated materials to unlimited number of operators for further processing; Hot Edge-Coater (primarily for laboratory use) to apply hot-melt seals to containers or any other application requiring hot melt sealing at high speeds; Cellophane Machine (No. 111-CH), a versatile combination paste and heat sealing cellophane bag machine. This machine makes the following types of bags: Single wall pasted bags with a full lip; duplex pasted bags with a full lip; single-wall pasted flush-cut bags with or without thumb cut; combination (cellophane front and paper back) bags with or without thumb cut; Heat seal and pasted bottom, with shallow lip; heat seal and pasted bottom with flush cut, with or without thumb cut.

New Air-Powered End Stapler

A new air powered unit, the End Stapler, is now ready for delivery at International Staple & Machine Company, 801 Herrin St., Herrin, Illinois.

This new high speed unit has no electrical connections, featuring a new and revolutionary two-cycle air motor with a completely new mechanical trip. The manufacturer states that this unit was specially designed for perfect closures of end opening cartons, full overlap, partial overlap, telescope and many other types of cartons.

The end Stapler can be turned to a 90° angle for center slotted cartons and special applications. It weighs only 155 lbs., is 62¾" high, including the staple magazine, and is only 38" deep.

The unit features International's patented retractable anvils which allow the carton to close after it is filled. The closure made with the End Stapler meet Rule 41 requirements of General Freight Classifications and Parcel Post Regulations. It will close A, B, & C flute corrugated and as much as 350 lb. double wall cartons. It will handle all standard thicknesses of solid fibreboard cartons. Write International Staple & Machine Co., Herrin, Illinois, for literature and details.

Why you should use

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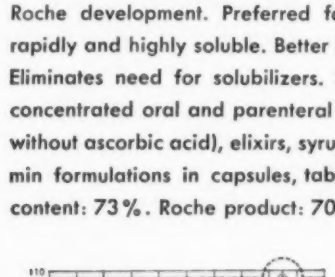
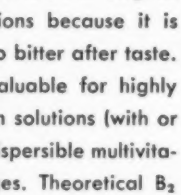
A. THREE TYPES. Roche makes three types of riboflavin, each of which has special advantages for pharmaceutical manufacturers.

- **RIBOFLAVIN 'ROCHE'—REGULAR.** Especially useful for powdered dietary supplements, pharmaceutical tablets, soft gelatin capsules and dry enrichment premixes.
- **RIBOFLAVIN 'ROCHE'—SOLUTIONS TYPE.** For use in parenteral solutions which approach or slightly exceed the maximum solubility of B_2. Less likely to crystallize out.
- **RIBOFLAVIN-5'-PHOSPHATE SODIUM 'ROCHE'.** An original Roche development. Preferred for all solutions because it is rapidly and highly soluble. Better taste . . . no bitter after taste. Eliminates need for solubilizers. Specially valuable for highly concentrated oral and parenteral multivitamin solutions (with or without ascorbic acid), elixirs, syrups, water dispersible multivitamin formulations in capsules, tablets, lozenges. Theoretical B_2 content: 73%. Roche product: 70-73%.



STABILITY in B-complex parenteral solutions with or without vitamin C.



SOLUBILITY in water at different pH levels; room temperature.

B. QUALITY. All riboflavin 'Roche' (Regular and Solutions Type U.S.P. requirements. Riboflavin-5'-Phosphate Sodium 'Roch which no U.S.P. standards exist, meets the exacting producti trols established by Roche for all of its vitamins. Roche uses synthesis in the manufacture of riboflavin.

C. UNIFORMITY IN COLOR. Uniform color of each type is mai in Roche manufacturing.

D. STEADY SUPPLY. Roche makes vitamins, including riboflavin, tons. You are sure of steady supplies.

E. QUICK DELIVERY. Every order receives prompt, careful servic convenient points. Transportation at lowest rate allowed a paid to destination. Special routings at cost.

F. PACKAGING. Packed in polyethylene bags in ½ and 1 kilo t pruf metal containers and in fibre drums up to 20 kilos. Smal tities in amber s.c. glass bottles.

G. LEADERSHIP. Because of its position as a world-leader in r and production of vitamins you can rely on Roche.

H. NEED SAMPLES? Ask your Roche salesman or write the Division for samples and technical literature.

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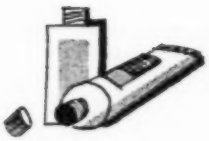

Advancing Therapy

Topical Antibiotics

The Council on Pharmacy and Chemistry of the A.M.A. has recognized the topical use of bacitracin, neomycin sulfate, polymyxin B sulfate, and tyrothricin on the basis that these antibiotics exhibit a low index of sensitization and, in contrast to the sulfonamides, penicillin or streptomycin, are employed less often for systemic action in serious infections where sensitivity to them might prevent their use.

The Council recently reopened its evaluation of dermatological forms of the newer antibiotics in relation to the question of local sensitivity reactions on the basis of further experience as indicated by interested manufacturers and the opinions obtained from consultants in dermatology. The data from manufacturers as well as the experience of 11 leading dermatologists revealed that the continued topical use on the skin of an ointment or cream containing 10 mg. per gram of erythromycin, one per cent chloramphenicol, or three per cent chlortetracycline hydrochloride, oxytetracycline hydrochloride, or tetracycline hydrochloride was associated with a relatively low index of sensitivity reactions, which apparently is somewhere between that of the bacitracin-neomycin-polymyxin group and the penicillin-streptomycin group. In some instances sensitization could be traced to the vehicle rather than the antibiotic. The consultants also agreed, however, that promiscuous use of erythromycin and the broad spectrum antibiotics for topical treatment of pyogenic skin infections should be avoided and often was not required in view of the topical effectiveness of other antibiotics less frequently employed for systemic infections. Continued topical application increases the possibility of systemic allergic reactions.

The Council voted to recognize the discriminate use of dermatological preparations of chloramphenicol, chlortetracycline hydrochloride, erythromycin, oxytetracycline hydrochloride, and tetracycline hydrochloride for the topical treatment of pyogenic infections of the skin and to expand the New and Nonofficial Remedies monographs on these antibiotics accordingly. — *J.A.M.A.* 159:1634, 1955.

Cobalt in Anemia

J. M. Hill, J. La Jous and F. J. Sebastian (*Texas J. Med.* 51:686, 1955) used cobalt or cobalt and iron preparations in 115 patients with various forms of anemia over a period of eight years. Dosage in adults was kept around 50 mg. daily and in children from 10 to 30 mg. daily. Later, larger doses ranging from 100 to 160 mg. daily were employed, but with these nausea was often a problem. No apparent benefit was derived from cobalt therapy in acute aplastic anemia, leukemia, Hodgkin's disease, and multiple myeloma. Results were doubtful in hereditary leptocytosis and most of the hypoplastic anemias. Cobalt therapy produced the best results in the anemias associated with low grade infection, arthritis, blood loss, and iron deficiency and in hemolytic anemia. Particularly noteworthy was the effect of cobalt therapy in 18 pregnant women with anemia, most of whom had not responded adequately to prior iron therapy. In comparison with a control group of 63 patients receiving iron alone, the cobalt-iron group of patients gained an average of 1.73 gm. of hemoglobin per 100 cc. of blood, while those receiving iron alone showed an average gain of 0.73 gm. per 100 cc. It is well established that cobalt has a powerful erythropoietic effect with an increase in erythrocyte precursors in the bone marrow. The recognition of the role of cobalt in normal metabolism as part of the vitamin B_{12} molecule should remove prejudice against this agent. The direct stimulating effect on erythropoiesis considered in this paper is obviouly by a different mechanism.

Hypotensive Steroid

The steroid, 5-androsten-3, 16 beta-diol, was first synthesized in 1953 and screening procedures showed it to be bradycardic and hypotensive in anesthetized dogs. C. H. Campbell and M. N. Huffman (*J. Okla. State Med. Assoc.* 48:295, 1955) undertook the examination of its activity in human subjects. Careful consideration of the data showed that the steroid brings about a lowering of the blood pressure and slowing of the heart in the human subject. The authors believe that the compound has a pharmacologic action similar to that of the Rauwolfia alkaloids and may confirm the belief that certain steroids selectively anesthetize or sedate sub-cortical areas of the brain.

Comment: The theory of possible action of some steroids on certain sections of the brain has been adequately confirmed by the steroid anesthetic Viadril. This androstenediol, however, may repay further investigation with respect to its possible sedative, reserpine-like action.

Cyanacetic Hydrazide

Cyanacetic acid hydrazide given to 40 men with various forms of pulmonary tuberculosis by M. Serembe (*Minerva Med.* 46:462, 1955) in some of whom streptomycin, aminosalicylic acid, and isoniazid had been of little avail, while in others the administration of these drugs had to be suspended, proved to be about three times less toxic than isoniazid. It diffused rapidly into the organs and their fluids and reached concentrations that were much higher than those obtained with the standard antituberculous drugs. The drug was well tolerated even by those patients to whom the administration of other drugs had to be discontinued. The patients' appetite, with a consequent gain in body weight, and their sense of well-being were improved; cough decreased and often disappeared. During the first months of treatment, the sputum decreased in quantity, was more serous and more fluid, and became negative in 14 patients. Fever decreased and temperature was restored to normal; the objective chest symptoms improved in 30 per cent of the patients. The best roentgenographic changes were seen in 15 patients with exudative tuberculosis in

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a series of *water-soluble,* polyoxyalkylene lanolins, nonionic and stable to high concentrations of electrolytes over a wide range of temperature and pH conditions.

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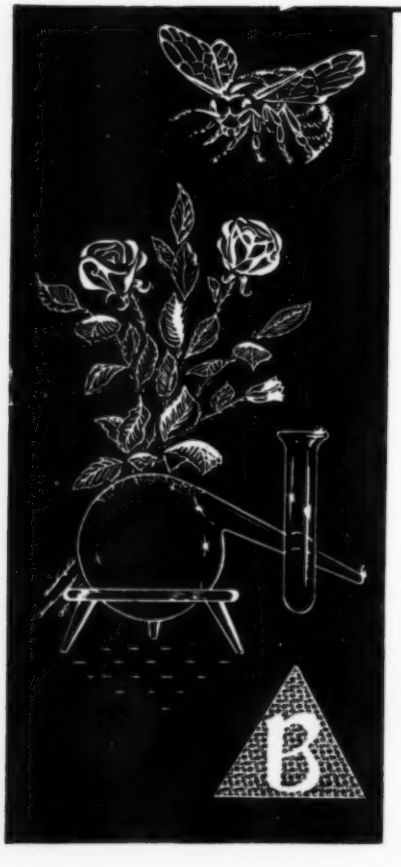

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whom the exudative lesions regressed or became sclerotic. The action o the drug was slight on chronic lesions on which other antituberculous drugs had been of little avail. Because these good results were obtained with cyanacetic acid hydrazide alone, it is assumed that even better results may be obtained by combining this new drug with streptomycin, aminosalicylic acid, or isoniazid. Studies are in progress to test this assumption and also the eventual development of bacterial resistance to cyanacetic acid hydrazide.

Pyridoxine

Ambulatory patients with fractures generally show unpleasant postanesthetic symptoms that prolong their stay in the hospital and require the attention of hospital personnel. To remedy this, Drs. Renzo Corno and Carlos Deza gave pyridoxine hydrochloride for such postanesthetic symptoms (*Boletin del Colegio de investigaciones medicas*, vol. 1, no. 1). The trial was carried out in 20 unselected patients with fractures, whose ages varied from four to 60 years. A similar group of 20 patients served as a control. General anesthesia with trichloroethylene was used in all cases. Of the pyridoxine-treated patients, 17 had no postanesthetic symptoms, but all of the patients in the control group showed some degree of intolerance to the anesthetic. Pyridoxine was particularly helpful in preventing such symptoms as nausea, vomiting, protracted drowsiness, and sweating.—*J.A.M.A.* 160:134, 1956.

Comment: I wonder if this could be related to the possibility that pyridoxine plays a role in fat metabolism, deficiency of this member of the B complex resulting in seborrhea, as well as other symptoms. Pyridoxine is often used successfully in overcoming nausea, which would be the obvious reason for its trial in these fracture cases: less obvious, however, is the fact that fractures are accompanied by some degree of release of fat into the blood stream, in some instances great enough to cause death from fat emboli. Pyridoxine in this situation may facilitate the removal of the fat from the blood stream and thus prevent the adverse symptoms.

Hypotensive Agent

At a meeting of the Academy of Sciences in France, Raymand Hamet reported that Hunteria eburnea pichon, an African apocynaceous plant, has actions similar to those of Rauwolfia serpentina and Rauwolfia heterophylla but more prolonged and not accompanied by any reduction of cardiac activity. It possesses a sympatheticosthenic action. Dr. Dang-Van-Ho of Vietnam reported good results with an extract of Morinda citrifolia root, a rubiaceous plant found in Saigon.—*J.A.M.A.* 160:133, 1956.

Pantethine Growth Factor

Panthethine, a compound formed from pantothenic acid and beta-mercaptoethylamine, improves the weight curve of growing rats, according to S. Garattini and R. Paoletti (from *Chemical Abstracts* 49:4822, 1955). It serves also as a substitute in pantothenic acid deficiency, and serves as source of SH groups. Association with adenosine triphosphate gives an additional growth stimulus.

New Pharmaceuticals

Rutaminal RQ (Schenley Laboratories, Inc., New York) is an improved version of Rutaminal, each tablet containing 100 mg. of aminophylline, 15 mg. of quercetin, 25 mg. of ascorbic acid and 50 mcg. of reserpine and is a supportive adjunct in the treatment of cardiovascular disorders. It is available in bottles of 100 and 1,000 tablets.

Kemadrin (Burroughs Wellcome & Co., Inc.) is a brand of procyclidine hydrochloride useful for the treatment of parkinsonism. It is available as scored 5 mg. tablets in bottles of 100 and 1000.

Vi-Syneral Vitamin Drops Fortified (U. S. Vitamin Corp.), with a pleasant lemon-raspberry taste, contains vitamin B_{12}, natural vitamin A complex, natural vitamin D complex, choline, inositol, betaine, vitamin E, vitamin B_6, ascorbic acid, thiamine hydrochloride, riboflavin, niacinamide and panthenol in an aqueous solution.

Deladumone (E. R. Squibb & Sons) is a long-acting combination of androgenic and estrogenic hormones combining metabolic action with reduced sexual activity. Each milliliter of the sterile solution for intramuscular injection contains 90 mg. of testosterone enanthate and 4 mg. of estradiol valerate, the response from a single injection of one or two ml. lasting from two to four weeks. Deladumone is supplied in vials of one and 5 ml.

Calcidrin Syrup (Abbott Laboratories) is an improved formula with a new apricot flavor and color for the treatment of coughs due to colds. Each 30 cc. contains 10 mg. dihydrocodeinone bitartrate, 25 mg. sodium Nembutal, 25 mg. ephedrine hydrochloride, and 910 mg. of anhydrous calcium iodide in a palatable aromatic syrup. The preparation is available in pint and gallon bottles.

Gerizyme (The Upjohn Company), a diet supplement for elderly patients, is a wine flavored liquid resulting from a blending of fruit and other flavors with 18 per cent alcohol, and provides vitamin B factors and minerals. Each 15 cc. contains 75 mg. of liver concentrate, 43.17 mg. ferrous gluconate, 100 mg. each of calcium glycerophosphate, inositol, and tricholine citrate, 3.3 mgs. each of thiamine hydrochloride, riboflavin, and d-pantothenyl alcohol, 1 mg. of pyrodoxine hydrochloride; 33.3 mgs. of nicotinamide, 3.3 mcgs. of B_{12} activity, 0.033 mg. cobalt, .33 mg. of copper and manganese, 2 mg. magnesium and potassium, 0.066 molybdenum, and 0.5 mg. zinc. Gerizyme is available in 12 oz. bottles.

Neosporin (Burroughs Wellcome & Co., Inc., Tuckahoe, N. Y.) ophthalmic solution, for the prophylaxis and treatment of eye infections is available in 10 cc. sterile bottles with a sterile dropper. Each cc. contains 5000 units of polymyxin B sulfate, 2.5 mg. of neomycin sulfate and 0.025 mg. of gramicidin.

Frenquel (Wm. S. Merrell Company, Cincinnati, Ohio) is a new anti-hallucinatory, anti-confusion agent for the treatment of acute schizophrenic reactions which acts by specifically blocking hallucinations. It is supplied in bottles of 100—20 mg. tablets.

Sterane (Chas. Pfizer & Co., Inc., Brooklyn, N. Y.) is now available as pink, scored oval-shaped tablets containing 1 mg. of prednisolone. This new dosage form is packaged in bottles of 100 tablets; the product was previously available in a 5 mg. white tablet in bottles of 20 and 100.

Stilphostrol (Ames Company, Inc., Elkhart, Ind.) 5 cc. ampuls each contain 0.25 Gm. chemically pure diethylstilbestrol diphosphate as a solution of the sodium salt for the treatment of prostatic carcinoma. Each box contains 20—5 cc. ampuls.

Byvirol (U. S. Summit Corp., New York) is a syrup containing 25 mcg. of vitamin B_{12} and 10 mg. of vitamin B_1 (per teaspoonful?) intended to stimulate appetite and promote growth in children. It is available in 4 oz. bottles.

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Foam Stabilization

At the First World Congress on Surface Active Agents, J. Kritchevsky and H. L. Sanders of Ninol Laboratories discussed the effect of molecular weight of alkylolamides on their foam stabilizing ability.

The addition of alkylolamides to shampoos based upon lauryl sulfates or alkyl aryl sulfonates improves lathering, but also causes a pronounced increase in viscosity and imparts a more slippery or soapy feel in use. If sufficient alkylolamide is used the harshness or stickiness of the alkyl aryl sulfonates can be overcome because the amides seem to be preferentially adsorbed into the skin and hair, leaving the skin feeling normal and preventing the sulfonate from forming a complex with the proteins.

Lathering tests were carried out with skeins of hair treated with oils. Tested solutions consisted of a two per cent solution of sodium lauryl sulfate or the alkyl aryl sulfonate or blends containing one per cent each of the sulfonate and the alkylolamide.

The addition of capric or lauric diethanolamides resulted in greater final foam volume; furthermore, these two compounds greatly increased the flash foam and promote lathering on first application to oily hair. On increasing the molecular weight of the fatty acid used, the foam stabilization decreases and blends containing palmitates, oleates and stearates hardly lather at all under the test conditions.

Investigation showed that hair oils decreased the foaming ability of these blends and the lower weight amides may in some way protect the sulfate and sulfonate foam from the disruptive action of the oils.

Tests were also made with pure compounds, free from excess amines. In blends with sulfates and sulfonates, the lauric monoethanolamide and monoisopropanolamide are good lather stabilizers on oily hair but the corresponding purified diethanolamide is not as effective. These two effective compounds are not soluble in water, but are still effective foam stabilizers.

Hair Dye Patent

A british patent No.712,451 discloses improvements in hair dyeing compositions to make them more effective on coarse hair. The oxidation dyes are less readily absorbed by hair which is coarse than by hair of average fineness. A pre-treatment with a hydrogen peroxide solution containing ammonia is often employed in dyeing coarse hair to promote absorption of the dye. This pretreatment with an alkaline oxidizing agent is likely to damage the hair, particularly in view of the fact that another application of peroxide is required to develop the dye. Another means of speeding up the coloring of coarse hair consists in adding ammonia to the dye solution. As the pH of the composition is around 10, the hair is weakened by prolonged contact with it.

In the improved hair-dyeing preparations, triethanolamine takes the place of ammonia as the alkaline ingredient. It is a weaker base than ammonia and this is not the first time that it has been proposed for use in hair dyes. While it proved less efficient than ammonia in earlier work, the patent specification discloses that triethanolamine actively promotes the dyeing of coarse hair when used in combination with a polyhydroxy compound such as sorbitol, glycol, pentaerythritol or glycerin. An ammonium salt is added to the dye solution as a buffer, and the pH of the resulting compositions is in the range from seven to nine. As an alternative method of producing a buffer mixture, a salt of triethanolamine is combined with free ammonia.

The aqueous solution of the dye is thickened with cellulose derivatives, alginates or gum tragacanth. While hair dye compositions in many cases are formulated as opaque emulsions, the patentees point out that a transparent preparation is advantageous since it permits the operator to observe the progress of the dyeing operation. Small amounts of fatty alcohols or hydrophilic wax derivatives may be incorporated as hair conditions without impairing the transparency of the product. The optimum concentrations for the various special ingredients are given at four per cent to six per cent for triethanolamine, two per cent to six per cent for the polyhydroxy compound and three per cent to five per cent for the ammonium salt.—*Schimmel Briefs, Dec. 1955.*

Ultrasonic Emulsification

An attempt has been made by H. M. Beal and D. M. Skauen (*J. Am. Pharm. Assoc. Sci. Ed.* 44:487, 1955) to study and evaluate some of the factors involved in emulsification with ultrasonic energy. The stability of the emulsifying agent to ultrasonic waves is a factor in its choice in emulsification. Two exposure chambers were found to be superior; one a cellulose acetate chamber and the other a Pyrex test tube fitted with a brass diaphragm. These two types produced the best emulsions and showed no appreciable stationary wave pattern found to be unfavorable to emulsification. Orientation of the exposure chamber was shown to be important in emulsification with ultrasonic waves. A distance of an exact number of half wavelengths between the bottom of the exposure chamber and the crystal was shown to deliver maximum acoustical energy to the contents of the chamber and at these points emulsification was best.

Some factors influencing emulsification by the application of ultrasonic energy such as temperature and time of exposure are described. The emulsifying agents employed, listed in descending order of effectiveness, include hard soap, polyethylene glycol 400 monostearate U. S. P., polysorbate 80 U. S. P., acacia U. S. P., sodium lauryl sulfate U. S. P., and tragacanth U. S. P.

Sugar Surfactants

The pharmaceutical industry is a large consumer of surfactants in salves, ointments and medicines of the shake-well-before-using type. Three of the largest are investigating sucrose esters for these uses. Tooth paste has always represented an effort to disguise the flavor of a somewhat nasty soap or detergent.

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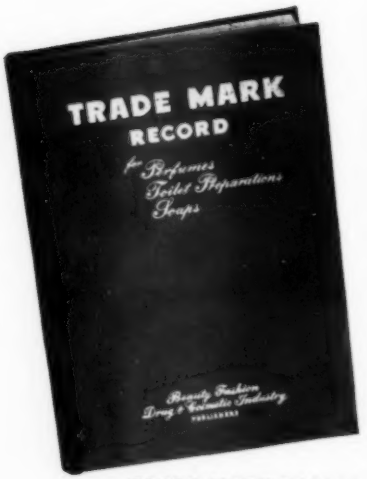

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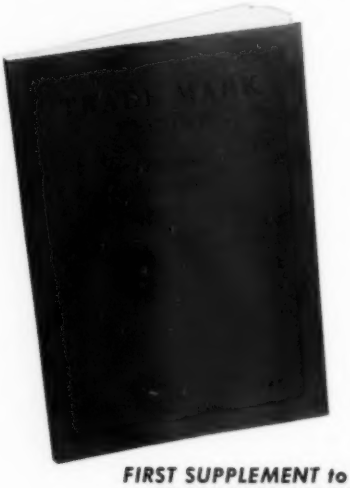

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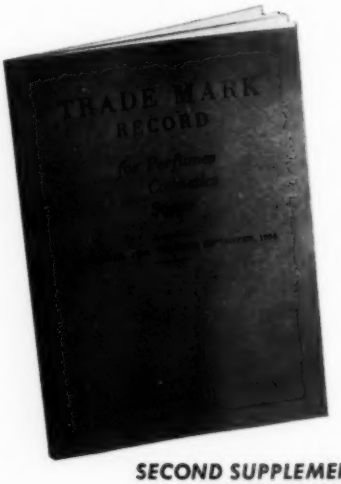

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Quaternaries in Cosmetics

The combination of antiseptic and surface-active properties exhibited by quaternary salts are of considerable interest to cosmetic chemists. At the present time, these salts are being used in various types of toiletries but apparently, this is only in the experimental stage in the cosmetic field. Since purified quaternary salts are not irritating to the skin in effective concentration and show a low degree of oral toxicity, their safe use in cosmetics is foreseen. In comparison with some of the antiseptic substances employed in skin preparations they have the advantage of being practically colorless and having only a slight odor. The question of irritability is still to be proved.—*W. F. Lewis, S. P. C.* 28:642, 1955.

Aerosol 22

Aerosol 22 (American Cyanamid Company), tetrasodium - N - (1, 2 - dicarboxyethyl) - N - octadecylsulfosuccinamate, is a detergent that cleanses without excessive defatting action, an emulsifier, a wetting agent and a solubilizing and dispersing agent. It is available as a clear solution containing 35 per cent of active ingredient, with a pH value of seven to eight.

The detergent is practically nontoxic when tested by ingestion and topical application to rats, and patch tests with human subjects indicate that this product exhibits no greater skin-irritant properties, either primarily or as a sensitizer, than does a popular brand of toilet soap. Aerosol 22 gives clear solutions in all proportions with water, is soluble in saturated salt solutions and is insoluble in organic solvents. Aqueous solutions, however, tolerate five to 10 percent of alcohol without precipitation.

Although primarily a detergent, Aerosol 22 has useful wetting power. It is an excellent solubilizer, increasing the tolerance of soaps, sulfonated oils and other surfactants to inorganic acids, bases and salts. It reduces the viscosity of soap solutions, improves their foaming power, and increases their tolerance to salts. Aerosol 22 is fairly stable to acids and extremely stable to sodium hydroxide. Shampoo and bubble bath formulas containing this detergent are effective in water having a hardness as high as 300 ppm. Shampoos form no curds on washing and rinsing in water containing as much as 500 ppm hardness and bubble baths soften the water and prevent formation of a ring or curds in the tub. Aerosol 22 is an effective foaming agent and detergent: 15 per cent of the solution, along with thickening agents, gives an excellent shampoo that does not deplete the natural oils of the hair and scalp and addition of up to 20 per cent to other synthetic detergents reduces drying and defatting of the skin.

The compound, finally, alone or in combination with other agents is an effective emulsifier for waxes and oils, giving smoother creams with better spreading properties.

Cortisone and the Skin

Cortisone affects the surface skin differently from the way it affects the dermis, or true skin lying below the surface layers.

In fact, cortisone's action on the surface skin, or epidermis, is an indirect one resulting from its action on the under skin.

These findings, made in studies of would healing, hair regeneration and experimental skin cancers, are reported by Drs. Gillman, Penn, Bronks and Roux of the University of Natal at Durban, Natal, and the Brenthurst Clinic, Johannesburg, South Africa, in *Nature* (Nov. 12).

Cortisone delays but does not stop the formation of skin cancers experimentally induced by painting cancer-causing chemicals on the skin of laboratory animals, the scientists found. Microscopic examination of the skin of cortisone-treated animals showed malignant change within the surface skin, even though examination without a microscope failed to show any cancerous changes.

When the hair is plucked from the skin of mice and cortisone is applied, the hair does not regrow. The reason, apparently, is that the cortisone has suppressed the invasion of the under skin by new surface skin cells, and has also made it impossible for the underlying connective tissue to form new hair roots.

Therapeutic Dyes

The therapeutic dyes—gentian violet, brilliant green, basic fuchsin, acriflavine—are almost ideal topical therapeutic agents in their efficiency and freedom from harmful side-effects. They cannot be used as widely as they would be, however, because of their obtrusive and disfiguring color. H. Ephraim (*Bril. J. Dermatol.* 67:453, 1955) has come up with a simple and ingenious solution to the problem in which he uses mixtures of the dyes, to obtain a brown color rather than a lurid purple or green, and titanium dioxide to dilute the color so that application of the ointment or lotion to the skin will be virtually invisible. Two examples are:

Paste

Precipitated sulfur	**3.0**
Salicylic acid	**1.0**
Acriflavine	**0.014**
Basic fuchsin	**0.011**
Gentian violet	**0.001**
Bentonite	**0.2**
Distilled water	**1.0**
Glycerin	**2.0**
Titanium dioxide	**3.0**

Ointment

Precipitated sulfur	**2.5**
Cod liver oil	**1.5**
Acriflavine	**0.006**
Brilliant green	**0.0015**
Basic fuchsin	**0.01**
Titanium dioxide	**4.5**
White petrolatum	**1.5**

Beeswax Emulsions

The addition of certain hydroxylated compounds to surface-active agents often result in improved emulsifying performance. The acid in beeswax forms soaps with bases and it is possible that the alcohols present in wax form complexes with the soap to produce emulsifiers which are responsible for the peculiar properties of beeswax. In order to determine the effect of the beeswax alcohols on emulsions made with this wax, J. Pickthall (*J. Soc. Cosm. Chem.* 6:263, 1955) blocked the free hydroxyl groups by acetylation. A cold cream made from this acetylated beeswax has larger particle size and is relatively unstable when compared to the usual cold cream. The careful addition of certain hydroxyl compounds (cetyl alcohol is too oil-soluble) to acetylated beeswax results in creams as good as the original and in some respects substantially better. On the basis of these results the author urges that the acetyl value of beeswax (a measure of hydroxyl content) be given more attention in analytical evaluations.

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Skin Research

Measuring Perspiration

At the December 1955 meeting of the Scientific Section of the Toilet Goods Association, O. Jacobi and H. Heinrich discussed methods of measuring antiperspirant activity.

In the group of staining methods are those which depend upon some kind of color change produced when perspiration comes in contact with certain chemicals. Cobalt chloride which changes from blue when dry to pink when moist has been used by several people. The saturated cobalt solution is usually painted on the skin and allowed to dry. When perspiration occurs the color of the cobalt salt changes and can be evaluated optically or photoelectrically. Rieder and Neumann use iron sulfate and tannic acid in a white pigmented oil which gives an excellent background to make the blue-black iron tannate visible wherever perspiration occurs. Sprinkling rhodamine dye on the skin gives brilliant red spots wherever moisture dissolves the dye.

Minor developed the iodine method which has become a classic and deserves to be given in some detail. In this method a 15 per cent solution of elemental iodine dissolved in a 10 per cent alcoholic castor oil solution is applied to the skin, allowed to dry and then dusted with starch. Perspiration droplets become visible as dark blue spots and the progress of perspiration can be followed by photographing the areas at different time intervals. Randall and Hezman replaced the loose starch powder by starch-iodine paper which has the advantage of giving a stain on the paper but not on the skin. Incidentally, the paper is a record as to the intensity and location of the sweat.

All these methods, except the last mentioned, have the disadvantage of staining the skin of the person under test. This objection was overcome by Herrmann, Prose and Sulzberger who developed a test paper of bromphenol blue, sodium carbonate, corn starch and gum tragacanth which, when pressed against the damp skin changes color in proportion to the moisture encountered. This method permits an estimation of the amount of perspiration by comparing the test papers with some previously prepared standards.

Other investigators have changed the older methods by developing the stain on some kind of test material rather than the skin. Examples are: The use of a powdered mixture of potassium ferricyanide and ferrous sulfate on the adhesive side of pressure sensitive adhesive plastic tape; in another method different filter papers are soaked in solutions of different concentrations of cobalt chloride and small sections of these papers are then fastened to the skin by means of adhesive gauze.

Instead of using the moisture of perspiration as the indicating element, it has been suggested that the salt content be used as indicator. In this method the salt secretion of the perspiration is transferred to a piece of filter paper impregnated with a silver nitrate solution which, when exposed to sunlight, will turn gray or black wherever it came in contact with perspiration. This method has been criticized because sodium chloride may originate from other sources in the skin and not exclusively from perspiration.

Antibiotic Deodorants

Topically applied antibiotic agents have a considerable effect in preventing the appearance of normal axillary odor according to W. B. Shelley and M. M. Cahn (*J.A.M.A.* 159:1736, 1955). The repeated application of neomycin cream or lotion (in a concentration of 3.5 mg. of base per gram of vehicle) completely inhibited the production of odor in the axilla of 20 men. This provides further evidence that axillary odor results from the action of bacteria on apocrine sweat. Clinically, the topically applied antibiotic agents provide an alternative measure for the patient who does not tolerate the standard aluminum salt deodorants.

Squalene Content of Oils

W. Dickhart (*Am. J. Pharm.* 1955, p. 359) analyzed a number of products by the A.O.A.C. method for their squalene content and his results are listed below as milligrams of squalene per 100 grams of sample:

Olive oil	**150-726**
Gall stones (one sample)	**726.7**
Refined Rice oil	**366.0**
Patawa oil	**162.8**
Red oil	**128.0**
Tall oil	**96.0**
Japanese Hydrogenated fish oil	**63.0**
Castor oil	**38.0**
Palm Kernel	**37.1**
Chinawood	**29.2**
Corn oil	**28.0**
Peanut oil	**28.0**
Rapeseed oil	**28.0**
Grapeseed oil	**21.0**
Butter	**17.0**
Palm oil	**14.6**
Cocoanut oil	**13.4**
Sunflowerseed oil	**13.0**
Poppyseed oil	**13.0**
Mustard seed oil	**13.0**
Teaseed oil	**12.0**
Oleomargine	**10.7**
Linseed oil	**9.7**
Cottonseed oil	**8.0**
Hog Grease	**4.5**
Dried animal blood	**2.1**

Skin Response to Light

In a paper in which the results are unfortunately not too clearly expressed, A. Bachem of the University of Illinois College of Medicine in Chicago (*J. Invest. Dermatol.* 25:215, 1955) investigated the time factors for erythema and pigmentation for ultraviolet light of different wave lengths. Three regions of the ultraviolet spectrum produce erythema and pigmentation of the human skin, maxima corresponding to 2540 for short, 2970 for medium and 3650 A.U. for long ultraviolet light. Precautions were taken in this study to use light of defined wave length and intensity: the

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short range was light of almost pure 2540 A.U. wave length; the medium length included 2800 A.U. to visible light, the middle ultraviolet predominating; the long ultraviolet extended from 3340 A.U. to the visible border. Thirty subjects were used and untanned portions of the skin were irradiated from one second to five minutes, observations being made immediately and after hours, days, weeks, months and up to two years.

The tendency for the skin to shed scales was predominant after short ultraviolet reddening; blistering occurred more after middle ultraviolet erythema; with long ultraviolet in most cases desquamation and blistering could not be produced. The long ultraviolet response occurred without a latent period, maxima being reached within an hour or sometimes after a few minutes. Erythema may last from a few minutes to one day; pigmentation may be faint and disappear within an hour or it may be strong and persist for more than a year.

All the other responses exhibit a definite latent period. The short and middle ultraviolet erythemata appear after two to three hours, but never before that time. The maximum is reached in about half a day for the short ultraviolet erythema, and in one to two days for the middle ultraviolet erythema. As a rule the reactions subside in a few days, but they may last for one or two weeks, gradually fading out. The first signs of pigmentation after short and middle ultraviolet exposures appear about one day. The maximum is broad and the duration varies from weeks to months. Erythema and pigmentation, as a rule, last longer for the middle than short ultraviolet exposure.

Acne

The association of acne lesions with the pilosebaceous unit was recognized over 200 years ago. It is well known today that there are two main pathogenic factors: hyperplasia of sebaceous glands with subsequent seborrhea and hyperkeratinization of the follicular pore. The first development, and perhaps the second, is produced by the physiologically increased testosterone levels in boys and increased progesterone levels in girls at puberty. The severity of response of the target organ, the pilosebaceous apparatus, is apparently determined by genetic factors. Where hyperkeratosis at the follicular opening causes blockage of the sebum exit there is dilatation of the follicle. Stagnation and decomposition of sebum is followed by perifollicular inflammation and often by secondary bacterial infection. Pressure of the macroscopic or microscopic comedo resulting in fragmentation of the follicular wall and sebaceous gland may produce atrophy. The clinical progression of acne lesions through the stages of comedo, papule, pustule, and cyst reflects the sequence of these pathological changes, while the occurrence of pitted scarring depends on the degree of destruction of the pilosebaceous apparatus and perifollicular connective tissue.

It is known that testosterone in the male and progesterone in the female are prerequisites for the development of acne. Furthermore, animal experiments have shown that these effects are counteracted by administration of large amounts of estrogenic hormone. Nevertheless, a practical approach to hormonal treatment of acne is still lacking because the high dosage of estrogens required to produce clear-cut reduction in sebaceous gland volume is rendered impractical for clinical usage by the accompanying dangerous side-effects in both sexes. At present, then, treatment depends rather on utilization of empirically established local and general measures that vary in scope and intensity with the severity of skin changes. —F. D. Malkinson (*J.A.M.A.* 159:1117, 1955)

Skin Penetration— Guillot and Valette

In 1856, Poulet, following the observation of Seguin and Homrolle, formulated the conclusion that the skin absorbs neither water nor hydrosoluble substances while the epidermis stays intact. He noted that a subject maintained for some time in a bath at 28° underwent a loss of weight that was very small in the course of the first hour, but larger afterwards.

The subject experiences a loss of water because of pulmonary respiration and cutaneous transpiration from non-immersed regions, but during the first part of the experiment the losses are compensated by imbibition by skin and hair of certain quantities of water. If there were a true absorption the water would penetrate into the organism throughout the bath and would counteract the losses. Concerning imbibition, when the superficial losses of the epidermis have attained their swelling maximum, fixation of water ceases.

After Schwenkenbecher, Whitehouse, Hancock and Haldane denied the possibility of absorption of water through the skin. In a bath of pure water or one per cent salt solution, there is no transport of liquid; in an 11 to 20 per cent salt solution there is passage of water from the skin to the surroundings.

There is no doubt, in any case, of the imbibing capacity of the horny layer where the layer is particularly thick, as in the palm of the hand and sole of the foot. The intensity of this imbibition is regulated by different factors that Monje has recently described, especially the ionic concentration of the solution and the temperature.

If the epidermis constitutes a quasi impassable barrier for water of the external milieu, there is also opposition to the diffusion of water from the organism and to losses by evaporation. Burch and Winsor have noted on fragments of excised skin that this hydration capacity persists for fifteen days after removal of the skin. The deeper layers being very strongly altered, act differently. This property is ascribable to the cornified layer, for the destruction of latter immediately accelerates diffusion.

Mercury has been extensively administered by the percutaneous route; in ointments or plasters, the metal is present as fine particles suspended in the fatty material. These preparations have been used in therapy for several centuries and signs of penetration by the mercury, salivation particularly, are sufficiently common to leave no doubt as to the absorption of the metal. The different steps in its passage through the skin and the chemical transformations it undergoes require elucidation.

From the observations of Neumann, Furbringer, Reilly and Zwick, we know that the metallic globules penetrate the skin only by way of the hair follicles and the sebaceous glands. Absorption is much more rapid if the ointments are rubbed into hairy regions of the skin. At the end of two weeks, the globules lose their roundness and their luster; two weeks later the globules have completely disappeared, although all of the mercury has not been absorbed. The nature of the excipient substantially influences the absorption of the mercury, animal fats (lard) and vegetable oils (corn oil) being much more favorable than petrolatum or mineral oil. Furthermore, aging of the ointments, which promotes the formation of mercury soaps, improves absorption. Laug and his collaborators have noted that mercury oleate is much superior to other compounds of mercury with respect to its penetrating properties. It may thus be presumed that mercury is incorporated in the sebum as a soap and in this form enters the capillaries and lymph system.

(*Continued from page 208*)

ground that this Spanish meaning could not replace the primary surname significance of the name in the public mind. On appeal, the Commissioner reversed this ruling and held the name "Rivera" to be registrable on the Principal Register without reliance on Section 2(f). After thoroughly reviewing all pertinent precedents and the legislative history, the Commissioner found neither the precedents nor the history to be consistent or conclusive. The decision notes that on occasion marks have been refused registration where they happened to be the name of the applicant whereas the same applications might have been granted if the marks had not been the applicants' own names; such a result was considered "untenable since a mark which is in fact primarily merely a surname should be so considered in all circumstances, and vice versa." In the Commissioner's opinion, the decisive test should be whether or not the primary significance of a word, when applied to a product, is a surname significance *and only that*. The Commissioner summarized the applicable test in the following two significant paragraphs:

> "It seems to me that the test to be applied in the administration of this provision in the Act is not the rarity of the name, nor whether it is the applicant's name, nor whether it appears in one or more telephone directories, nor whether it is coupled with a baptismal name or initials. The test should be: What is its primary significance to the purchasing public? Application of this test would have resulted in the same conclusions in the 'Andre Dallioux' case, the 'Reeves' case, the 'Wayne' case, the 'Windsor' case, the 'Higgins' case, and the 'Seidenberg' case. It might have resulted in different conclusions in the 'Kimberly-Clark' case and the 'Cellini' case.
>
> "Applying the test to the mark sought here to be registered, it is not believed that the average member of the purchasing public would, upon seeing 'Rivera' used as a trademark on watches, be likely to think of its being a surname—even though it does not appear to have any meaning as a word in the language. The decision of the Examiner of Trademarks is reversed."

Distinctiveness under Section 2(f)

Under this Section descriptive marks may be registered on the Principal Register if they have acquired distinctiveness. The most important decision involving this section was a four to one ruling of the Court of Customs & Patent Appeals in the "Butter-Nut" case, 102 USPQ 294.

Registration of "Butter-Nut" as applied to candy had been refused by the Examiner of Trademarks on the ground that the mark was incapable of distinguishing the applicant's goods and in addition was deceptive. The Commissioner affirmed but only on the ground that the applicant had failed to prove distinctiveness under Section 2(f), although it had relied in the application on that section. The majority of the Court of Customs and Patent Appeals admonished the Patent Office not to apply too strict a standard in determining distinctiveness, Judge Worley, speaking for the majority, said:

> "* * * we do find, however, an increasing tendency to require more and still more proof from an applicant for registration under Section 2(f) than we think Congress fairly intended to impose."

Applicant had shown not only that it had used the mark exclusively during the statutory five year period but that it had so used it over a period of at least 36 years; had spent over a million dollars for advertising; and that the volume of its sales for the preceding eight years alone was over $11,500,000. Applicant also had introduced numerous affidavits tending to show distinctiveness of the term. In evaluating this evidence, the Court, while agreeing that form affidavits—no matter how numerous—should not per se be considered representative of the attitude of the purchasing public, came to the conclusion that, in view of the record as a whole, the applicant had made out a case of distinctiveness and that the term "Butter-Nut" should be registered under Section 2(f).

Service Marks

These marks are registrable under the Lanham Act if they are used in connection with the sale or advertising of services as distinguished from products. The Patent Office is gradually lowering its standards of registrability regarding such marks and while it still requires four basic prerequisites for registrable service marks its attitude as to what is registrable is more liberal than was previously the case.

To be registrable as a service mark the services should go beyond those which are normally incidental in the sale of merchandise and must assume the form of a separable entertainment, educational or other service. Titles of radio programs and similar matter are considered registrable now, even though they may be used only in connection with a sponsored commercial and despite the fact that their primary purpose may be the advertising of the sponsor's products.

A second requirement is that the services in connection with which the mark is used must be "rendered in commerce." This is still rather narrowly construed by the Office. In this connection, a well-known hotel and restaurant which has no branches in other cities or does not sell merchandise in commerce could not obtain registration of its slogans. It would have no alternative but to use its name in connection with radio or television programs if it should desire to register its name under the Act of 1946.

Dr. Derenberg notes that in one respect the Patent Office seems to have broadened the scope of the term "use in commerce." Names of teams such as baseball

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Perfumer's Shelf

Lipstick Perfume Compounds

The creation of a suitable perfume compound for use in lipsticks is influenced not only by the factors that usually govern the selection of cosmetic perfume materials, such as irritation, risk of dermatitis, discoloration, incompatibility and coverage, but also by an additional consideration: that of flavor and taste. A lipstick perfume compound is unique in that it is not only smelt but usually tasted.

As a result, it is just as important to formulate a pleasing flavor and taste as it is to achieve a balanced and appealing fragrance. It is even more important to avoid the production of an unpleasant taste.

While these characteristics can be attained by trial and error, it is more efficient to build up the perfume compound from components selected for their flavor and taste suitability. The flavors of perfume materials are almost universally pleasant in the concentrations of normal use. Even if a perfume compound has a flavor lacking in balance, it is unlikely to be actively unpleasant. But the taste of these materials varies quite widely, particularly with regard to sweetness and bitterness.

A few general trends due to the presence of specific chemical groups are noticeable, though it is not unusual to find totally different tastes between closely related chemicals. For example, the alkyl butyrates and isobutyrates used in flavors and perfumes are sweet in taste almost without exception, while the benzoates are bitter, as are also most of the perfumery hydrocarbons. But while butyl propionate has a very sweet taste, the corresponding isobutyl ester is bitter. Methyl decine carbonate is very sweet, but ethyl decine carbonate bitter and burning to the taste. The formate of benzyl alcohol tastes very sweet, the acetate bitter and burning, and the propionate again very sweet. Conversely the formate of terpineol is bitter, the acetate sweet, and the propionate again bitter.

Fortunately for the lipstick compounder, the area of the tongue most sensitive to sweetness is mainly confined to the tip, while bitterness is sensed at the back of the tongue. The taste of lipstick components is, however, pervasive enough to merit careful attention.

Most esters with a molecular weight of less than about 180 are of very limited use in lipstick perfume compounds, due to their redolence of "pear drops" and other fruity notes. Used with ingenuity and restraint, a variety of pleasing effects can be attained. The top note in particular can be brightened, sweetened and freshened with their aid. Not least, they can help to provide coverage for the odor, flavor and taste of oils and waxes used in the lipstick base.

A desirable aim when fabricating a lipstick perfume compound is high intensity of odor. The omission of weakly odorous substances is usually justified partly by their lack of coverage, and more by the fact that, although they contribute little to the fragrance intensity, they may exert a disproportionately marked effect on taste, irritation, toxicity and decomposition.

Where essential oils are concerned, better results can often be obtained with their terpeneless derivatives or isolates. Where flower extracts are concerned, on the other hand, a lipstick perfume compound provides an ideal medium for the use of solvent extracted concretes. It can be shown by experiment that the presence of as little as one per cent of a genuine flower concrete has a beneficial effect on a largely synthetic but well constructed compound. Not only can it improve the note considerably but it can appreciably hasten maturation, slightly improve tenacity, lend a more natural note and boost the yield. In association with small amounts of clary sage products and macrocyclic lactones, these properties are considerably enhanced. Synthetic isolates and their derivatives will usually compose the bulk of a lipstick perfume compound, but a chemical note must not be allowed to predominate.

Most of the customary resins, oleoresins and fixative essential oils can be used advantageously, though care should be exercised with liquid resin specialties. These materials may contain solvents with an undesirable taste, such as diethyl phthalate, and will then be unsuitable for use in lipstick perfumes.

The resins themselves are generally more suitable, despite the comparative inconvenience involved, and in some cases the preparation of a filtered and dried solvent extract is indicated.

A rounded and characteristic base can be fixed, rounded off and enhanced with materials of direct natural origin. As with other cosmetic perfume compounds the basic notes of jasmin, violet, lilac and rose form a suitable background, with, for instance, neroli, chypre, ylang, foin coupé and carnation as possible secondary themes.

Peach and strawberry are popular for top note and flavor background, while shadings of many other notes, providing that they are subtle and restrained, can prove very acceptable.

Typical of these modifying influences are almond, apple, banana, caramel, cherry, cinnamon, clove, coconut, cream, ginger, hazelnut, honey, lemon, lime, maple, nutmeg, orange, pear, pineapple, raspberry, tangerine and vanilla. Most of these should only be present as discreet, if perceptible, nuances, enfolded in a floral, cachou, confectionery background.

Benzyl formate and benzyl propionate, particularly the latter, should replace the acetate in lipstick compositions. They will provide a peach-like flavor in addition to their fruity, jasmin fragrance. The formate should be used with discretion.

Ionone, which is used in raspberry flavors, and methyl ionone, which gives a gratifying flavor of violet cachous, provide the fundamental violet motif.

Of the alkyl alkynoates, methyl and ethyl heptine and methyl octine carbonates are of sound value. Methyl decine carbonate is very fine, particularly with methyl ionone, though the possibility of radical exchange with ethyl esters to give the bitter compound should be borne in mind.

Methyl and ethyl myristates, santalyl

phenylacetate and neryl propionate are modifiers worthy of trial.

The use of terpineol and cinnamyl alcohol for lilac notes is inadvisable in a lipstick composition. Phenylethyl dimethyl carbinol and hydrocinnamic alcohol are recommended as possible replacements for this application.

Phenylethyl alcohol, linalyl and neryl propionates and anisyl alcohol are favorable blenders, as is a moderate dose of anisyl formate with its exceptionally sweet taste, strawberry type flavor and heliotrope type fragrance. Cinnamyl acetate (pineapple) may be used in small amounts with ethyl cinnamate (peach). Farnesol from a carefully selected source is perhaps the most beautiful modifier, giving smoothness, roundness, and an added flavor of confectionery and cachous.

A number of rosaceous materials possess a flavor of the apricot-peach type. *l*-Citronellol ex geranium oil, geraniol ex palmarosa, isogeraniol, phenylethyl alcohol, citronellyl acetate, geranyl butyrate, rhodinyl isobutyrate and geranyl isobutyrate can be used to provide a rose-peach base. A number of other rosaceous substances impart a honey flavor, notably phenylethyl acetate, phenylethyl propionate, phenylethyl butyrate, cinnamyl butyrate, isobutyl phenylacetate and guaiyl phenylacetate. Linalol, citronellyl formate, citronellyl butyrate and citronellyl propionate are used in plum flavors: the propionate is often used in cosmetic perfume compounds for its fine rose odor, though its slight bitterness must be considered here.

Further possibilities are opened by the use of dimethyl octanyl phenylacetate with its excellent rose fragrance, neryl and rhodinyl butyrates, and the isobutyrates of citronellol, nerol and cinnamic alcohol.

The finest freshener for use with these materials would undoubtedly be a trace of genuine terpeneless lemon oil, if available, in a concentration of about 0.2 per cent.

Where the use of hydrocinnamates is considered for providing a strawberry top note and flavor, it is worth noting that ethyl phenylglycidate, in addition to having a superior odor to ethyl methylphenylglycidate, is considered by flavor chemists to give a finer strawberry flavor. It has the advantage of a cleaner note and can be used safely in somewhat higher concentrations.

γ-Undecalactone is widely used as an invaluable lipstick perfume component, but in a flavor, just as in a perfume compound, its concentration should be low. A flavor compound designed to be used in mere traces may contain, exceptionally, as much as five per cent; though one per cent is usually considered sufficient. In fine perfumery 0.05 per cent is often more than enough where, moreover, its strong character is very much modified by substantial amounts of acyclic aldehydes. In a lipstick perfume compound 0.2 per cent is suggested as a suitable maximum for normal use.—*D. N. Burton, Soap, Perfumery and Cosmetics* 28:1383, 1955.

Acetals

One of the advantages of employing acetals is that, unlike aldehydes, they do not cause discoloration. Acetals are stable when used in soap, and consequently they may be used in all types of perfumes, including those for cosmetic preparations.

Acetals are combinations of aldehydes and alcohols. The aldehydes may be aliphatic or aromatic, while the alcohols belong mainly to the lower aliphatic alcohols. It is particularly the more complicated acetals built up from the aromatic aldehydes that are commonly used in the perfumery industry.

The unsaturated aliphatic aldehydes, are suitable raw materials for the manufacture of acetals and offer extensive possibilities of application in perfumery.

The compounds of the saturated aliphatic aldehydes are of less value to the perfumer.

The most important function of the acetals is that they beautifully round off the often harsh, characteristic odor of the aldehydes, without, however, detracting from the odor value of the chemical. For the odor of the acetal is milder, finer and more subtle than the odor of the corresponding aldehyde. A well balanced combination of the acetal and the corresponding aldehyde very often gives the much sought-after effects that would be very difficult to obtain in any other way. For rounding-off purposes and to obtain delicate shades, acetals are truly ideal.

One of the most outstanding acetals is phenylacetic aldehyde dimethylacetal. This acetal has a typical leafy odor, which is perhaps better defined as the odor of an opening flower bud. The rose note, together with the hyacinth note from the aldehyde radical, gives to this acetal a charm all its own. It is especially employed in bases for rose centifolia and hyacinth in quantities of two to three per cent, while it also produces valuable effects in lilac perfumes. In smaller dosages it may be employed in perfumes of the tea-rose type and in exotic perfumes.

The glyceryl acetal of phenylacetic aldehyde has an earthy mushroomlike odor. It is a fixative of no small merit and it produces surprising effects in lilac perfumes.

The odor of hydratropic aldehyde dimethylacetal is more characteristic than that of phenylacetic aldehyde dimethylacetal. It possesses a typical leafy odor, reminiscent of the odor of the leaves of a rose-bush, but it is somewhat sweeter than the phenylacetic acetal. It blends well with phenylacetic aldehyde dimethylacetal. Used in dosages of one-half to two per cent, it produces excellent results in perfumes of the rose, tea-rose, gardenia and neroli type. In gardenia bouquets as much as three per cent may be used.

Heliotropin diethylacetal has the delicate fragrance of hawthorn blossom. It may be used in relatively large amounts in perfumes of the gardenia and jasmin types.

The diethylacetal of *a*-amylcinnamic aldehyde possesses a characteristic jasmin odor, coupled with a typical, pronounced fruity note. Jasmonal diethylacetal is employed in honeysuckle, jasmin, elder and gardenia types.—*Polak and Schwarz in S.P.C.* 29:86, 1956.

Pseudo Aldehydes

The pseudo aldehydes, especially C14, C16, C18, play an important role in modern perfumery. Recently, attention has been paid to pseudo aldehydes with a strongly fruit-like odor, e. g. C19 (pineapple), C20 (raspberry) and C29 (banana). These aldehydes skilfully blended into a composition may decisively influence its effect. A combination of these pseudo aldehydes and the fatty aldehydes can produce extremely interesting effects. Before the aldehyde combination is added to the perfume oil, several combination-effects should be tried out. Some perfumers recommend the creation of a blend between aldehyde C11 (undecylic) and aldehydes C14, C18, and even some C29. The proportions which will yield the bets harmony should be tried out. This top note can be slightly modified with other similar odorant bodies in order to round it off completely.

Aldehyde C14 possesses a fine soft, fruity, note of peaches; aldehyde C16 reproduces the radiant, bitter-sweet scent of wild strawberries. Aldehydes C18 is characterized by a soft cocoanut fragrance.—*Dragoco Ber.*

(*Continued from page 246*)

teams have now been held as registrable despite of the fact that under a Supreme Court decision, baseball and similar sports are not considered "commerce" for purposes of the anti-trust laws. Thus, for purposes of the anti-trust laws, baseball is not involved in commerce, but for purposes of the Lanham Trade mark Act it is involved in commerce. This is one of those quirks of law which always seem to please laymen, judging from the comments one hears about law and lawyers.

A third requirement of a registrable service mark is that it must relate to a service and the fourth requirement is that it must be used in connection with that service.

Likelihood of Confusion

It can be reported that the noticeable tendency previously shown by the Patent Office of favoring the applicant rather than the opposer in determining likelihood of confusion has been continued and strengthened recently. While each case depends on its own facts a recent survey shows that applicant wins in four out of five cases.

PART III: TRADEMARK INFRINGEMENT AND UNFAIR COMPETITION

A review of the cases shows that generally speaking the various Federal Courts have upheld and effectively protected trademarks both registered and unregistered against infringement.

The only "fly in the ointment" in this connection appears to be the problem of "Chinese" copying or slavish imitation of competitor's unpatentable or uncopyrightable products. In the great majority of cases of this type relief has been denied. In the absence of evidence of passing off or strong evidence of vaguely defined "secondary meaning," Dr. Derenberg feels that under the misnomer of a free enterprise theory, an ever-increasing number of competitors seems to be ready to resort to unscrupulous copying to the very limit of legally untouchable conduct. Such slavish copying has received the blessing of the courts both federal and state in numerous recent cases. Thus, in Pennsylvania, the plaintiff put on the market an unpatented baby auto seat. It became a great success and defendant copied it slavishly and sold it under its own name. Although the court observed that it seemed "shocking" at first blush that a person could freely copy or imitate another person's product it held that such copying had "contributed tremendously to the progress and prosperity of the U. S. and is in the best interests of the vast majority of the people, since it restricts monopoly." Similarly, a New Jersey State Court would not prevent a defendant from copying the exact dispenser for catsup in a shape resembling a tomato which had been successfully brought on the market by the plaintiff.

There were other cases along the same line but the U. S. Court of Appeals for the Second Circuit appears to be departing from the view of the majority. In the case of Capital Records Inc. v. Mercury Records Corporation, 105 USPQ 163, the question arose whether the unauthorized making of phonograph records from broadcasts was unfair competition under N. Y. law. This question was answered in the affirmative with Judge Learned Hand dissenting. And in the Mastercrafter's case, 105 USPQ 160, an unanimous court reversed the lower court which had held that slavish copying and sale for a cheaper price by the defendant of an unpatented Swiss clock which had become known as the "Atmos" clock did not constitute unfair competition and had even held that the imitator was entitled to damages as a result of the plaintiff's circulars and statements to the trade.

The Court of Appeals held that, under circumstances such as these, an action for unfair competition would lie on the ground that the copyist intended to and did attract purchasers who wanted a "luxury design" clock. The Court said:

> "This goes to show at least that some customers would buy plaintiff's cheaper clock for the purpose of acquiring the prestige gained by displaying what many visitors at the customers' homes would regard as a prestigious article. Plaintiff's wrong thus consisted of the fact that such a visitor would be likely to assume that the clock was an Atmos clock. Neither the electric cord attached to, nor the plaintiff's name on, its clock would be likely to come to the attention of such a visitor; the likelihood of such confusion suffices to render plaintiff's conduct actionable."

MODE OF ACTION OF ULTRA-LOW PRESSURE AEROSOLS

(*Continued from page 192*)

During the course of our investigations, we found that fineness of spray at Ultra-Low pressures could be achieved by adjusting the proportion of water in the various primary aliphatic alcohols so as to limit the extent of miscibility between the alcohol solution and propellant.

Table I shows to what extent dichlorotetrafluoroethane is miscible in methyl, ethyl and isopropyl alcohols. The minimum concentration required to achieve satisfactory spray pattern is also shown.

Note that the extent of miscibility is directly proportional to the number of carbon atoms in the alcohol used. This relationship is shown in Table 2.

It should be emphasized that while it is necessary to have an aqueous alcohol solution relatively saturated with propellant, it is also necessary to have a sufficient volume of propellant to effect fine atomization of product. For example, 80 per cent ethyl alcohol will become saturated with approximately 13 per cent

(*Continued on page 254*)

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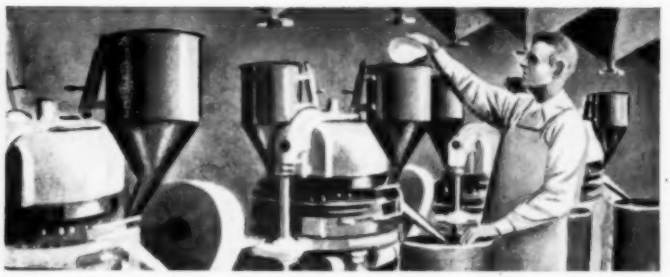

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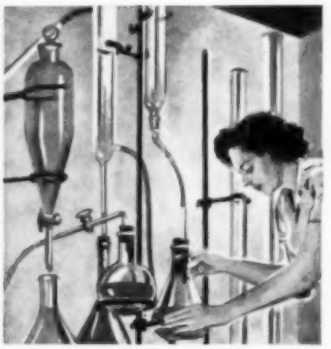

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The Dispensatory of the United States of America 25th Edition, *by Arthur Osol, Ph.G., B.S., M.S., Ph.D., Professor of Chemistry and Director of the Department and School of Chemistry, Philadelphia College of Pharmacy and Science, and George E. Farrar, Jr., B.S., M.D., F.A.C.P., Medical Director, Wyeth Laboratories, Inc., with collaborators, 2139 pp., J. B. Lippincott Co., Phila., (1955), cloth,* **$25.**

The Silver Anniversary 25th Ed. of the Dispensatory of the United States of America is now available. An authoritative commentary on the whole range of drugs and drug products used in medicine, the U.S.D. has performed a recognized service to the pharmaceutical and medical professions since 1833—a period of 122 years. The 25th Ed. is divided into four parts. Part One provides complete commentary on drugs recognized by the U.S.P. XV, the N.F. X, the British Pharmacopoeia, and the International Pharmacopoeia. Individual monographs are arranged alphabetically according to the English title, with the information for each drug generally following this order: Official titles, synonyms and abbreviations; official definitions; unofficial synonyms, foreign language titles, trade-names and trade-marks; source of manufacturing process; history; official description; tests; assay methods; constituents; adulterants; therapeutic uses; toxicology; dosage; storage directions; official preparations. Part Two lists nonofficial drugs—medicinal agents not recognized in the official compendia which provide the basis for inclusion in Part One—also certain formerly official drugs and various chemical substances which are of toxicological interest. Part Three covers veterinary usage. Part Four is a thorough functional index.

The American Drug Index, *by Charles O. Wilson, Ph.D., Professor of Pharmaceutical Chemistry, College of Pharmacy, University of Texas, and Tony Everett Jones, M.S., Instructor of Pharmaceutical Chemistry, College of Pharmacy, University of Colorado, (1956), J. B. Lippincott Co., Phila., 576 pp., cloth,* **$5.**

The American Drug Index has been prepared for the identification and correlation of the many pharmaceuticals available to the medical and allied professions. Data included are generic name, chemical name, manufacturer, pharmaceutical forms, size, dosage and use. The information is in accord with the latest editions of these books: U.S.P. XV, N.F. X, N.N.R. 1955, A.D.R. 1955. This index should be most useful to physicians, pharmacists, dentists, nurses, and to sales personnel, students and teachers in the fields incorporating pharmaceuticals.

Chemical Trade Names and Commercial Synonyms, *A Dictionary of American Usage, by William Haynes, Second Edition, 466 pp., D. Van Nostrand Co., Inc., New York, (1955), Cloth,* **$8.**

Containing over one quarter more entries than its predecessor, this revised edition presents many more precise and complete definitions of the special names used in the modern chemical industry. It covers both abbreviations adopted to simplify long technical names of the newer organic compounds and those terms coined by manufacturers. It will prove of great value to anyone who deals with industrial chemicals.

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Essentials of Pharmacology, *by Frances K. Oldham, Ph.D., M.D., F. E. Kelsey, Ph.D., of the University of South Dakota, and E. M K. Geiling, Ph.D., M.D., the University of Chicago, Third ed., 520 pp., (1955), J. B. Lippincott Co., Phila., cloth,* **$6.**

The third edition of this book retains the objective of the two preceding editions, namely, the presentation of a basic Pharmacology text in which the general principles of Pharmacology are stressed and the coming trends in the field indicated. As in the previous editions, the text is designed to give the student a broad and up-to-date survey of the present status of Pharmacology and to prepare him for evaluating future scientific advances.

Textbook of Pharmaceutical Compounding and Dispensing, *edited by Rufus A. Lyman, M.D., Dean Emeritus, College of Pharmacy, University of Nebraska, and Joseph B. Sprowls, Ph.D., Dean, School of Pharmacy, Temple University, Second Ed., 477* pp., *J. B. Lippincott Co., Phila., (1955), Cloth,* **$9.75.**

This work has been extensively revised, and greatly expanded in order to include in a single volume undergraduate studies in such subjects as: Dispensing Through the Ages; The Prescription; Accuracy in Dispensing; Dosage Forms; Flavors and Odors and Their Pharmaceutical Application; Coloring agents; Solvents and Solubility; Some Properties of Aqueous Solutions and Their Applications to Pharmacy; Parenteral Preparations; Colloids, Emulsions and Suspensions; Dermatologic Pharmaceuticals; Incompatibility and the Incompatibilities of Inorganic Compounds; Incompatibilities of Organic Compounds; The Manufacture of Tablets; Dental Pharmacy; and Hospital Pharmacy.

Accepted Dental Remedies 1956, *21st Ed., 206 pp., American Dental Association, Council on Dental Therapeutics, Chicago, Ill., paper binding,* **$2.**

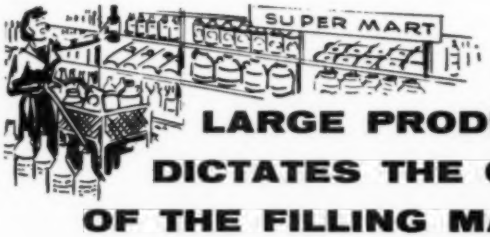
This publication is designed to serve as a current handbook of dental therapeutics. It also contains a list of therapeutic products marketed in the United States which are acceptable to the Council on Dental Therapeutics. In addition it includes the Council's provisions for acceptance of products, some information on standardizing agencies, and on prescription writing.

Organic Syntheses *An Annual Publication of Satisfactory Methods for the Preparation of Organic Chemicals, Vol. 35, 1955, 122 pp., John Wiley & Sons, Inc., New York, (1955), cloth,* **$3.75.**

This is another volume in organic syntheses procedures for the preparation of compounds which are of general interest or which illustrate useful synthetic methods. Procedures represent optimum conditions for the preparations, full steps in the procedure and the range of yields. The Melting point of each solid product is given as well as the boiling point range and refractive index (at 25°) of each liquid product.

Public Relations for the Pharmacist, *by William H. Hull, M.A., 132 pp., J. B. Lippincott Co., Phila., 1955, cloth,* **$4.50.**

The first six sections of this book treat the topics of: Advancing the Pharmacist's Professional Personality, Building Prescription Practice, Pharmacies in Small Towns and Suburbs, The Technical Aspects of Direct Mail, The Pharmacist and Advertising, and Two of Pharmacy's Problems (Dispensing, and Keeping Your Self-Respect).



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(*Continued from page 250*)

Explanation of Figure 5.

Droplet of alcohol-base product containing insufficient quantity of propellant.

a). Potential droplet of alcohol base (large circle) prior to spraying. The three smaller stippled areas *represent* half of the quantity of propellant necessary to achieve complete saturation of product by propellant. Arrows indicate maintenance of equilibrium due to pressure within container.

b). Droplet at time of spraying; container pressure no longer present and equilibrium disturbed.

c). *Potential* force of liquefied propellant is converted to *kinetic* force, resulting in break-up of droplet into smaller but coarse fragments.

d). Coarse fragments result due to part of the kinetic force being expended by a portion of vaporized propellant redissolving in alcohol base. Note that these fragments still contain some dissolved propellant which evaporates slowly.

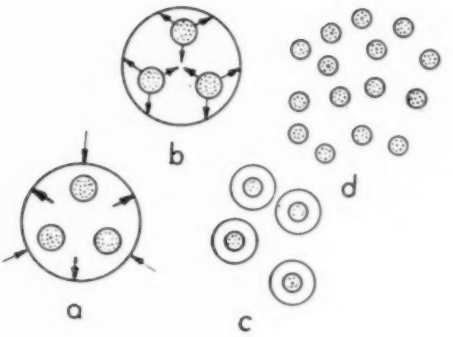

FIGURE 5

Explanation of Figure 6.

Droplet of alcohol-base product saturated with propellant.

a). Potential droplet of product prior to spraying. The six stippled areas *represent* the total quantity of propellant required to almost completely saturate product. Arrows indicate maintenance of equilibrium due to pressure within container.

b). Droplet at time of spraying; container pressure no longer present and dissolved propellant begins to vaporize, converting *potential* force into *kinetic* force. Major portion of the kinetic force is utilized in disrupting the droplet into fine particles since the already saturated alcohol cannot redissolve any appreciable amount of vaporized propellant.

c). Propellant completely evaporated, dispersing alcohol-base product in form of a fine mist.

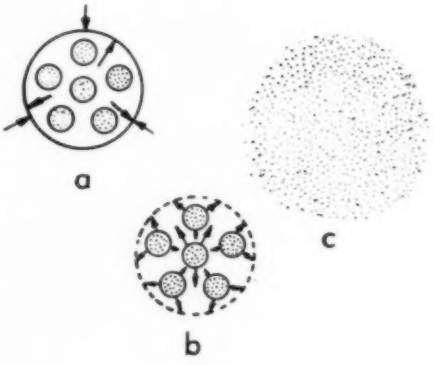

FIGURE 6

by volume of propellant but the resulting spray is coarse and unsatisfactory. This is because there is simply not enough dissolved propellant to properly atomize the droplets of product at the time of spraying.

Conversely, in the absence of water, the alcohols are mutually soluble with propellant in all proportions and thus require substantially large volumes of propellant to achieve mist delivery of product. As an example: A 90 per cent ethyl alcohol solution requires only approximately 30 parts by volume of propellant to attain a satisfactory spray. Anhydrous alcohol, on the other hand, requires at least 64 parts by volume of propellant to achieve the desired fineness of spray at 70°F.

This factor is of considerable importance, for in addition to the relatively high cost, products containing substantially high proportions of propellant impart a sense of excessive cooling to delicate tissues, particularly to inflamed areas such as burned or bruised skin, or to delicate mucous membranes. As a rule, the lower the proportion of propellant, the less super-cooling effect will be experienced. By selecting a relatively high boiling point propellant such as dichlorotetrafluoroethane, and utilizing the minimal proportions necessary to achieve the desired spray, super-cooling effect can be virtually eliminated. It should be noted also that the presence of water potentiates the pharmacodynamic effect of certain drugs.

If the drug is readily soluble and stable in water, the three phase system which sprays 100 per cent product with all of the propellant retained within the container, may be the preferred vehicle for such use as burn or mucous membrane therapy, since under certain conditions, the presence of *any* amount of propellant in the sprayed product may be undesirable.

Figures 5 and 6 illustrate graphically how fineness

(*Concluded on page 258*)

TABLE 2

Extent of Miscibility—Dichlorotetrafluoroethane in Alcohol at 70°F.

Concentration of alcohol (Per cent by vol.)	Propellant Miscibility (Per cent by vol.)		
	Methanol	Ethanol	Isopropanol
70	3	5.5	17
75	3.5	7	23
80	5	12.5	31
85	7.5	17	50
90	11	32	>50
95	27	>50	>50

Trade Literature

Perfume Oils

Rhodia, Inc., 230 Park Avenue, New York 17, has published three new booklets describing the use of its perfume oils in various applications. Rhodia Perfume Oils for Cream Shampoos describes a series of new perfumes for cream shampoos prepared from the newest aliphatic alcohol sulfates and like products. Rhodia Oils for Aerosol Products describes perfumes for all sorts of aerosol products in this and other industries. Rhodia Perfume Oils for Shaving Creams describes perfumes for lather, brushless, and aerosol shaving creams.

Hydrogen Peroxide

Bulletin No. 70, now available from Becco Chemical Division, Food Machinery and Chemical Corporation, Station B, Buffalo, N. Y., gives the properties of hydrogen peroxide solutions of more than 90 per cent concentration and contains information concerning the new Becco product hitherto unpublished. These solutions of virtually between 90 and/100 per cent were announced by Becco last November following issuance of U. S. Patent No. 2,724,640.

Becco Chemical Division has also issued Bulletin No. 69, which is described as the most comprehensive company publication on epoxidation and hydroxylation with hydrogen peroxide or peracetic acid. Appearing for the first time in print are descriptions of two new Becco *in situ* epoxidation processes; the ion-exchange resin catalyst-fixed bed and the expendable resin catalyst techniques. This 49-page bulletin describes reactions of unsaturated olefins (aliphatic and alicyclic), derived from agricultural products and the petroleum industry, including unsaturated fatty acids and their esters, alcohols, fats and oils, terpenes, polymers, and monomers.

Polak & Schwarz Reprint

A reprint entitled On the Reaction of Phenylethyne with Formaldehyde, by M. G. J. Beets and L. G. Heeringa, is available from the Research Department of Polak & Schwarz, 667 Washington Street, New York 14.

Private Label Drugs

Standard Pharmacal Company, 847 West Jackson Boulevard, Chicago 7, has issued a two-color, profusely illustrated booklet describing the necessary requisites in the selection of a private brand manufacturer, and also describing the services of the company and illustrating the company's facilities.

Fatty Alcohols

Survey of Cachalot Brand Fatty Alcohols, is a new 12-page booklet from M. Michel and Company, 90 Broad Street, New York 4. The booklet describes a large line of straight-chain aliphatic alcohols, includes over 100 uses for Cachalot C_{12} to C_{18} higher alcohols as intermediates and additives, shows typical reactions, infra-red spectra, solubility charts.

Collapsible Tubes

National Collapsible Tube Company, Dept. DC, 362 Carpenter Street, Providence, R.I., has issued a new 12-page booklet called Tube Talk, described as a "How To" booklet on packaging in tubes. Many products are packaged in tubes on a net weight basis, while the custom is to list tube capacities in fluid ounces.

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Readers' Questions . . .

Steroid Ointment: *What is the base used in the formulation of cortisone and hydrocortisone ointments for use on the skin?* CHICAGO.

A satisfactory ointment including hydrocortisone or its acetate (cortisone is known to be far less effective for topical use) is made by dissolving the desired amount of the hormone in a melted Carbowax mixture (proportions of the hard and soft grades adjusted to obtain the desired consistency) and filling into tubes either while melted or after cooling. The latter is preferable to prevent separation.

Deodorant Solution: *Can you give me a working formula for a simple, effective underarm deodorant and antiperspirant?* ALBANY.

A generally effective preparation of this type is an aqueous solution containing about 20 per cent of aluminum chlorhydrate, which is an aluminum astringent salt with reduced acidity. Addition of about one per cent of a nonionic surface active agent is supposed to improve the action of this solution, but the nonionic should preferably be non-hydrolyzable, so that it will stand up in the solution.

Shampoos: *I would appreciate your assistance in formulating shampoos, liquid and cream types, based upon synthetic detergents. We are interested in obtaining up-to-date information that will indicate the various ingredients that should be used.* LONG ISLAND CITY.

Shampoos, other than those based upon soap, contain an effective synthetic detergent for cleansing activity and a modifier to promote foaming and to modify the excessive detergent or drying action on the hair. A controversy now under way, in which we take no part, concerns the action of shampoos—whether they are solely hair cleansing agents or whether cleansing is really secondary to hair conditioning. In liquid shampoos, the detergent selected should be one that has sufficient solubility to give a clear shampoo; this change, in the case of lauryl sulfates, for example, is accomplished by utilizing the triethanolamine salt rather than the sodium derivative. In cream shampoos, the detergent mixture is made into a cream by the inclusion in the formula of sodium stearate or a modified bentonite. The alkylolamides are among the more popular additives for foam promotion and hair conditioning.

Liquid Shampoo

Synthetic detergent	15.0
Alkylolamide	7.5
Perfume	0.5
Water	77.0

Paste Shampoo

Synthetic detergent	20.0
Alkylolamide	15.0
Lanolin	2.0
Sodium stearate	10.0
Perfume	53.0

Beard Softeners: *I am interested in obtaining information concerning factors to be considered in formulating an effective beard softener and would appreciate your assistance in this matter.* PHOENIX.

Beard softeners, pre-shave preparations, should work primarily by impregnating hair with water and thus softening it for easy cutting. To a large extent, beard softening action is incorporated in standard lather and brushless preparations, but since these have to do more than just soften the beard (support it for the razor attack, among others) assistance from a pre-shave preparation may be in order. Surfactants are of many types, depending upon their primary activity—they may be foaming agents, detergents, emulsifiers and wetting agents. It would seem to me that in a beard softener only the last property need be considered. The use of natural bile salts, often recommended, is long outmoded because of their high cost, and even more important, their intensely bitter taste. A suitable wetting agent, anionic or nonionic, should be somewhat thickened so that it will not drip off the face. Gums may be used for this purpose or a modified vanishing cream formula based upon stearic acid or a monoglyceride may be made.

Epilating Wax: *Can you suggest a formula for the epilating wax used in beauty parlors?* NEW YORK.

You might try the following formula, or it can serve as a basis for your experimenting:

Rosin	52.0
Yellow beeswax	26.0
Paraffin	17.0
Petrolatum	5.0

These ingredients are carefully melted together at a low temperature, mixed and poured into molds or a suitable container. For use, the wax is remelted in warm water, painted over the surface from which hair is to be removed, a cloth applied to the still sticky wax and the mixture allowed to cool and set. Then yank. Frankly, we've never checked preparations of this type, even for experimental purposes, our scientific curiosity having certain limitations.

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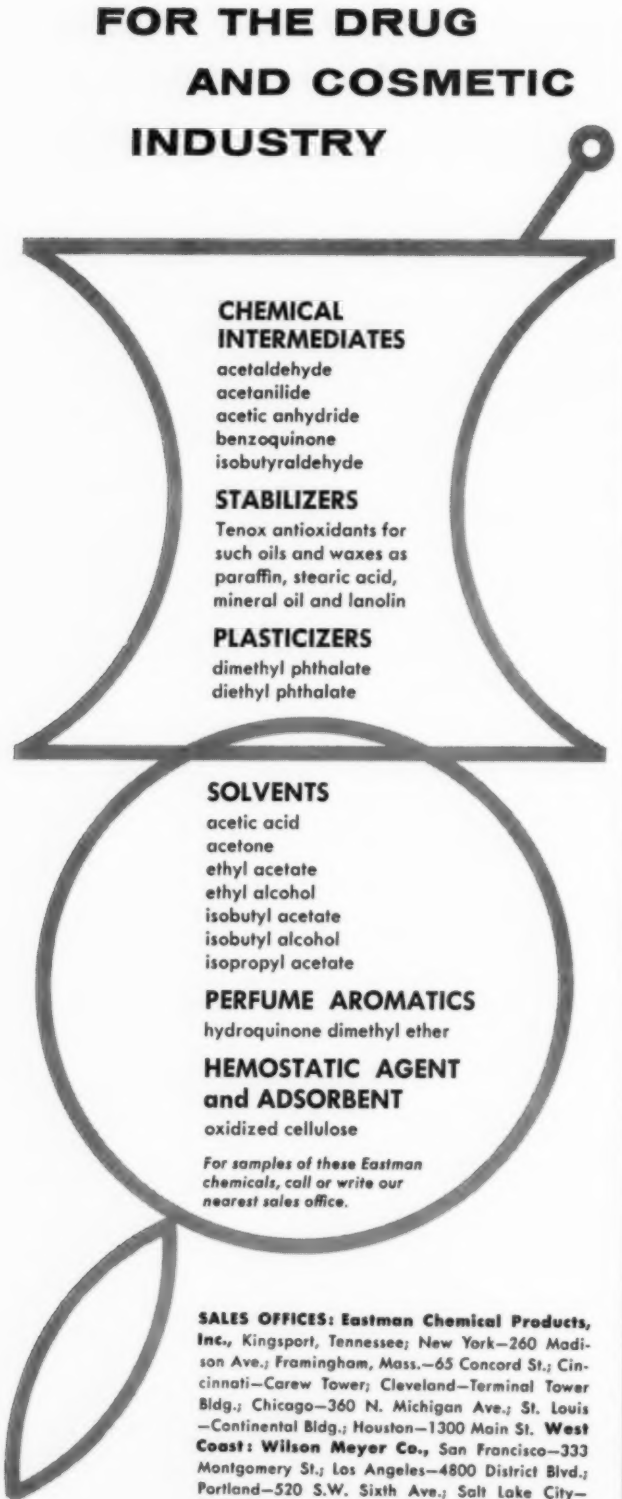
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(*Continued from page 254*)

of spray is affected by the degree of saturation of the alcohol base by propellant.

SAFETY

In considering suitable packaging for drug products, invariably glass is the first material that comes to mind.[3] The safety of glass used in Ultra-Low Pressure packaging has been adequately discussed elsewhere.[4] Considering the fact that normal operating pressures of such products are substantially lower than say, carbonated beverages, which are used without the slightest apprehension by most individuals, in addition to the fact that aerosol bottles are packed in strong, single-use containers of small volume, usually ½ to four ounces, there is little wonder that many items, e.g. cosmetics, athlete's foot remedies, etc., have been safely and successfully marketed during the past two years, with many more products under shelf or market test.

Ultra-Low Pressure aerosols in Glass, and certain plastics, offer many advantages including lack of corrosion, ease of application, and minimal product breakdown due to exclusion of oxygen.

In summary: We have described generally the manner in which the various aerosol systems function. We have discussed particularly the mode of action of the Ultra-Low Pressure System in the sincere belief that many drug products that could not be aerosolized in the past because of corrosion, absence of water, excessive cooling or possible irritation by propellant to inflamed tissues, can now be considered for packaging in the new and constantly growing aerosol field.

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WHAT'S NEW IN PLASTICS FOR PACKAGING

(*Continued from page 187*)

Miscellaneous. Just recently I saw a very interesting plastic screw closure that I believe might be of interest to the pharmaceutical industry. It was designed in such a way that after the cap was applied to the container, it would be difficult to take off unless you were acquainted with the principle of its design. It is a two piece cap consisting of an inner and outer plastic shell. The inner shell could be any conventional molded plastic screw cap except it would be designed with a ring of raised dots molded around the shoulder or the cap. The outer shell is plain, not threaded, and made to slip fit over the inner closure. The outer shell is molded with a ring of depressed dots to match the raised dots on the inner. The container cannot be opened unless enough downward pressure is applied to engage the two rings of dots. This clutch action enables you to remove the closure.

When I saw this cap it occurred to me that it might be the type of closure that would be used when it is desirable to keep the product away from the hands and mouths of small children or careless adults. If any of you are interested in seeing this closure later, the inventor gave me one proto-type which I have with me.

Plastic Bottles. I have purposely left for last—the subject of plastic bottles. I am able to go into greater detail on this subject because the last four years of my 21 years in the field of plastics for packaging have been spent specializing in the plastic bottle industry. (Unlike the glass container, the metal container, or the collapsible tube industries)—there have been no organized statistical reports issued for plastic bottles such as the United States Department of Commerce issues for glass and metal containers and collapsible tubes. Hence, there has been considerable speculation concerning the actual growth curve and the present day position of the plastic bottle in the field of packaging materials. I believe I can take some of the mystery out of this by citing what will be my own personal estimates. Please understand that these figures are not official. They are my own estimates based on my knowledge of the industry and various statistics that I have accumulated; however, I feel that these figures are acceptably accurate.

Plastic bottles are really not new. They were being made experimentally about 20 years ago. At that time polyethylene was not known and the small one-half and one ounce bottles were being made experimentally at that time for the armed services out of polystyrene and acetate—which are more rigid materials and more difficult to form into bottles. Polyethylene became available in the early 1940's and it was with the advent of this versatile and easily molded material that real strides were made in the art of blowing plastic bottles. Until about 1946 the use of polyethylene was limited mostly to the armed services, but development for civilian use continued and it was in 1947 that the first real civilian volume developed when the "stopette" liquid deordorant was placed on the market in a squeeze type spray bottle by Dr. Jules Montenier.

By 1950 the plastic bottle industry had grown out of its swaddling clothes and I estimate that during that year about 40 million bottles were marketed, mostly for commercial use and practically all by one manufacturer. In 1951 this jumped to about 53 million and then climbed to about 80 million in 1952. That sales trend continued through 1953 and 1954 and today it is estimated that the industry will ship about 260 to 275 million units during 1955. This is quite a change from 40 million bottles produced in 1950. Today three companies are sharing 80-85 per cent of this market. Four others are cutting up the remaining 15-20 per cent. This, too, is quite a change from 1950.

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I have found it interesting to compare plastic bottle unit volume with glass container unit volume. For example, during 1950 domestic sales of glass containers were something over 15 billion units compared with plastic bottle volume of about 40 million units. Percentage-wise plastic bottles had a position of about three-tenths of one per cent of this total. This year, this same comparison on the basis of an estimated 18 billion glass containers domestically and 260 million plastic bottles, the plastic bottle volume represents about one and four-tenths per cent of the total market. That is a solid one per cent gain on a mammoth market over a six-year period. Plastic bottles are moving forward and it will be worth your time and effort to keep abreast of the progress of this young but growing industry. A recognized industry fault of direct concern to you in the production end of the business is the lack of complete standardization by the plastic bottle manufacturers. This is probably because the industry is still comparatively young and as yet has not had time or perhaps has not been forced into establishing a central standardization group comparable to the glass containers manufacturers institute. Fortunately, the plastic bottle industry has had the benefit of the standards long established by the glass container industry. For example, most of us have patterned our stock line after conventional glass bottle shapes like the oval, the oblong or the Boston round, and beyond this—all of us, I believe, attempt to pattern the neck finish dimensions after glass dimensions to the extent that molded screw caps, made for glass containers will also provide a seal on plastic bottles. Standardization within the industry ends at this point. Minor differences—but nevertheless they are differences—have been noted in bottle weights, thread contours, fill point tolerances, start of thread and in some cases the stock bottle designs vary slightly from one manufacturer to the next. More important to you is the fact that the bottle components such as the spray and dropper plugs are not intentionally made interchangeable.

I am happy to be able to tell you that the members of the packaging institute have interested themselves in this matter or standardization, and two or three meetings have already been held. A committee is now at work on the problem of standardization of the plastic bottle threads and this same committee is also pointing toward the standardization of thread construction of plastic closures intended for plastic bottles. I am sure the results will be good and eventually we will have total standardization in the industry—at least within the scope of our various manufacturing techniques.

At this point, it might be timely to mention that we feel—and I believe everyone making plastic bottles will also agree—that molded plastic screw closures on polyethylene bottles provide the most in sealing efficiency.

Since it is my intent to be objective, I will try to mention all of the disadvantages of polyethylene

bottles that could lead you into packaging difficulties. It is common knowledge that polyethylene is for some liquids and some gases a porous material and certain products over a period of time will permeate through the walls of a polyethylene bottle. Permeability is a characteristic of polyethylene that allows passage of permeant type products through the bottle wall. When permeation occurs it usually results in collapse of the bottle walls because the rate of permeation of oxygen from the outside into the bottle is less than the loss of the permeant product. The rate of permeation is directly related to the product, the capacity of the container and the thickness of the container walls. In some cases, collapse can be minimized by considering this when designing the bottle. An oblong, for example, may not collapse as easily as an oval or a round. When your product presents a problem of permeation, remember that surface coatings are now being developed that will eliminate this problem for a high percentage of the products that could not be packed before—for reasons of high permeation. Also keep in mind that the newer molding compounds now in development have improved solubility and permeability characteristics and it is hoped that improvement in this direction will continue.

Neck cracking of polyethylene bottles is another although less frequent problem. Most all controlled dispensing with polyethylene bottles requires that a dispensing plug be inserted into the neck of the plastic bottle. An interference fit is required and this causes a strain on the wall of the bottle neck and it is possible that the neck could crack at this point. Certain ingredients, sometimes called "cracking agents" will promote this type of cracking. When these ingredients are known in advance, certain precautions can be taken. Proper design of the plug will minimize cracking. Close control of the inside neck diameter tolerances will also help and in all cases we will select the polyethylene that will give us the best control over neck cracking while maintaining minimum permeability.

I don't believe it is necessary to caution you not to market any product in a polyethylene container unless you are sure that it will hold. You must always consider the possibilities of encountering the problems I have mentioned and quite often we can tell whether to expect a problem if we have a list of the ingredients in your formula. A large library of test results has been accumulated or if no data is available, accelerated tests over a 30 day period can generally project shelf life behavior fairly accurately for at least a one year period. With such facilities available to you, guesswork is not necessary and proper package selection is assured.

Labelling of plastic bottles requires some thought and planning. I will describe briefly the several methods that have been used. Most all methods of labelling require that polyethylene bottles be surface treated prior to the labelling. The physical and chemical properties of polyethylene are such that its surface

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does not permit good ink adhesion and coverage unless the surface is pretreated. Pretreatment is required for all labelling methods except hot stamp decorating. There are several ways of pretreating polyethylene, some patented and others not. In the case of bottles, the most common treating method used is the application of a direct but controlled gas flame. The flame causes a physical and chemical change of the surface to be printed which improves the flow and adhesion of the inks as they are applied.

Silk screen printing is probably the most common, and in the case of round bottles, the most economical. Preparation costs are very economical and rejects caused by misprinting are practically zero because misprinted bottles can be washed.

Hot die stamping of colored leaf into the polyethylene bottle surface is the second most popular method of labelling. Here your preparation and die costs are higher and die costs are dependent on the amount and the style of the copy in the label. A misprinted hot die stamped bottle cannot be salvaged because of the imbedded tool marks that are left on the bottle surface by the hot die.

Some bottles are being labelled by the offset method of printing. Inks are applied to a die and in turn transferred to the bottle. This permits the application of two or more colors to the label in one printing operation. The economy is in the labor required for applying the print. Die costs by this method are less than the cost of hot stamp dies. With offset printing, it is not possible to get the depth and brilliance of color that we get with silk screening or hot stamp decorating.

Paper labels are used to a limited extent. The problem here is to get a label adhesive that will stick properly to the bottle surface. This problem is accentuated by the flexibility of the polyethylene. Repeated flexing of the bottle will cause the paper label to crack and peel. Nevertheless, paper labels are being used. Some have minimized this problem by using a paper wrap around label. I might add that flame treating the bottle will help adhesion of paper labels.

Decal type labels are being developed and have been successfully demonstrated. Until further refinements are made, this type of label is not economically justified unless the volume is quite substantial and the label involves more than two colors. Development work on decal labels continues and these facts may be changed during the coming year.

Polyethylene bottles are considerably lighter than similar style containers and this, of course, helps to offset their higher cost through savings in freight. This same advantage can be a disadvantage from the production man's point of view. Because they are extremely lightweight, they can present problems on high speed automatic filling and capping equipment. Nevertheless, the larger users of plastic bottles have corrected this problem and during the past year it has been reported that they are getting speeds of 100

bottles per minute and they have indicated possibilities of running as high as 120 per minute.

There is a definite place for plastic bottles in the field of packaging materials. If you consider them in your planning of new packages, consider them from the standpoint of the advantages they can provide. If you have a liquid, a lotion or a powder that you want to market in a container that will provide the ultimate user with convenient and controlled dispensing, consider the flexible plastic bottle that will dispense a drop—a spray or a stream. Bottle components that will provide this type of controlled and directed dispensing can be had from stock molds. If the proper component is not available from existing tools, our engineering talent is ready to help you tailor the plastic bottle to your package design requirements and to help you take full advantage of the functional versatility of the plastic bottle.

As to color, it is possible to match polyethylene to all shades of the spectrum. In addition, attractive translucent tints and unusual tinsels can be compounded. There is always the problem of minimum run requirements, but I thought you should be reminded that the color range for plastic bottles is practically unlimited.

One last word of caution, do not consider polyethylene bottles unless your pricing structure is flexible enough to cover what might be an increase in package cost. Polyethylene containers may cost two or three times as much as other style containers. This must be reflected in your selling price. However, it can be justified by the fact that you are offering your product in a chemically inert, colorful, lightweight, unbreakable and, most important, a functional, container that can be well worth the few pennies additional cost to the consumer.

AEROSOL SPRAY PATTERNS

(Continued from page 180)

ticle except when such pressure is due to air. Air pressure due to entrapped air gives a coarser spray.

Percentage Propellent

The greater the amount of propellent the finer and drier will be the spray as shown by the spray pattern. A mixture of a low pressure and a high pressure propellent, such as Freon 11 (Genetron® 11) and Freon® 12 (Genetron® 12) will give a coarser spray than a single propellent of an intermediate vapor pressure such as Freon® 114 (Genetron® 320), even though the pressures are identical.

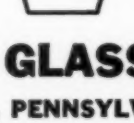
Viscosity

Since viscosity is a measure of a fluid's resistance to shearing motion it would be expected that an increase in viscosity would produce a marked increase in particle size. It is found that if the viscosity is great enough, a stream instead of a spray is obtained.

IS INTEGRITY A LUXURY?

BY JOHN HARDER, WRITER

This week I visited with many of the folks that make up the "Knox Glass Family". These people make glass containers; they are all career people . . . nothing inherited! I was pleasantly aware at the ONE feeling which seemed to overshadow all others in their everyday relationships with their customers . . business integrity. As an outsider, they surprised me by not pulling any punches. They told me of their abilities . . and their limitations. For example, some types of glass containers are not the sort of thing they can make in any of their seven plants using Knox mass production techniques. They do not pretend to solicit this type of business. However, the orders they do accept - whether wide mouth, beverage, or specialty, are completed to customer satisfaction. I insisted; I saw the quality control records, the shipments, the satisfactory conclusion of particular orders. By the way, the customer names I reviewed read like the proverbial "Blue Book of Industry" - whether it be in beverages, foods, the dairy industry, pharmaceuticals, or specialties. Everywhere I looked the pulse was "busy, busy". With all the upsurge of fine business, I feel free to say integrity is bedrock ... far from a luxury to Knox in today's markets.



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Surface Tension

Although the surface tension is a measure of resistance to surface formation, it has been of little importance in determining characteristics of aerosol sprays. One reason is that the solvents usually used in spray products have a much lower surface tension than water. With a three-phase aerosol system the introduction of a wetting agent to reduce surface tension results in the formation of a finer spray.

Vapor Pressure of Solvent Other Than Propellent

Solvents usually used in aerosol spray systems, such as alcohol and mineral spirits, have a high vapor pressure and therefore drops have a short lifetime. For example, it has been found that a drop of "isooctane" 1μ in diameter has a life of one millisecond. whereas a likesize drop of glycerol has a life of one second. Very low vapor pressure solvents such as heavy mineral oils and silicone oils will increase the average particle size of an aerosol spray.

Temperature of Container

The temperature of the container is also an important factor in determining the particle size of an aerosol spray. The spray pattern obtained with an aerosol at 80° F. is a finer spray than that obtained at 70° F. Conversely, a spray that may be satisfactory with a container at 70° F. may give an undesirably coarse spray at 60° F. This factor is especially important with low pressure glass aerosol products that may give a satisfactory spray at 70° F., but when placed in a storage space which may go down to 60° F. eject a stream rather than a spray.

Cooling by Aerosol Spray

One of the factors sometimes erroneously referred to as the temperature of the spray is the cooling sensation experienced on the skin with an aerosol product. In cosmetic aerosol products such as antiperspirants, it is important to have a spray which does not reduce the skin temperatures appreciably. The amount of material sprayed on the skin and the percentage as well as the type of propellent affect the amount of reduction in skin temperature. With the use of a thermistor it is possible to measure the mount of reduction in skin temperature with different sprays. If the propellent evaporates in the air rather than on the skin, the amount of reduction of skin temperature is less. Consequently, for warm spray skin temperatures, propellents with a low boiling point, such as Freon® 12 and Genetron® 12 are more desirable than Freon® 11 and Genetron® 11. For the same reason Freon® 114 and Genetron® 320 are better than Freon® 11 and Genetron® 11. Solvents such as alcohol which have higher boiling points than the propellents also reduce the skin temperature because they evaporate on the skin rather than in the air. Summing up, the skin temperature is reduced in accordance with the amount of evaporation of propellent

and solvent on the skin. It has been found that with some formulations the reduction in skin temperature can be kept down to about 4° F. with a spray of short duration. Longer spray periods, because of the fact that more of the liquid reaches the skin, will reduce the skin temperature further.

Wetness or Liquid Volume

The liquid volume of the spray, although indicated qualitatively by the spray patterns, can be measured accurately by determining the amount of material removed from the container in a given time interval. The spray life of the container can be determined by holding the valve open and timing the length of time required to empty it.

In conclusion, the spray characteristics that are desired depend largely on the product and how it is used. Spray patterns and other measurements provide a means of determining whether the characteristics desired are achieved. If not, it is possible to vary the spray characteristics by modifications in the formula, choice and amount of propellent, and selection of valve and button.

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HOPE FOR SMALL BUSINESS

(Continued from page 169)

many products, to force into mass consumption, and therefore mass distribution, so many of the branded, packaged products they sell, such as the lipstick. The retail discounts of this industry were founded on the premise that the retailer should actively participate in selling—by personal selling behind the retail counter, by extending credit, by deliveries and other services. But increasingly the retailer has allowed the manufacturer to assume almost the full cost of this selling function—by abandoning selling and adopting customer self-service, customer take home and cash on sale. It is only a matter of time before the pressure of competition and rising costs will compel the large manufacturer who spends many millions of dollars to pre-sell the consumer to demand from the retailer part of his retail discount to sustain and expand his national sales pressure.

This is exactly what is now happening, indirectly, in the automobile industry.

Such things as these are the opportunities of small business. The quality of alertness, the readiness to take advantage of any weakness in a huge creaking organization trying to balance and compensate incompatible forces is the special province of small business. In the distribution of this trade there are many incompatibilities between the supermarket, the drug store and the department store that simply can't be compensated.

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The small manufacturer has other advantages besides those arising from antagonistic interests in the retail field. The small manufacturer should find an enormous advantage in geography. There are two basic ways of marketing. You can slice the cake vertically and grow slice by slice. Or you can grow horizontally, working down layer by layer in the national market to increasing horizontal market density.

It is remarkable how generally small companies waste resources and time in an effort to build nationally, when in vertical concentration they have the advantage of lower selling cost, lower shipping costs, faster service and a personalized appeal for more intimate store cooperation.

In discussing some of the ways in which a small company can live, prosper and grow with relative security we have not meant to take the position that any market or any product is denied to a small company. Nearly every week, in some industry there is proof to the contrary. A new, exciting idea or the fruit of research in a new product, a new package or a new functional use will find this current American market eager to abandon the old and try the new. In spite of their millions of dollars invested in advertising, big companies today know that there is very little consumer loyalty or fixed habit of usage. Each sale is a brand new sale which must be made by more advertising dollars. At the same time there is no retail loyalty for these advertisers. They do business on a basis where they must literally continue to produce or get out.

All this puts an appalling burden on advertising. With little or no accumulated benefits, it is an open question whether these huge expenditures are in many cases economic and can continue. Advertising expenditures for lipsticks over the last four years give some excellent case histories which prove that the multi-million dollar advertising campaign, while painful at the time it is running is not by any means as devastating competitively as many once thought.

While the shadow lies heavily on the expanding hopes of small business, every day in every industry proves that small business is a pretty tough organism with plenty of unexpected punches. Perhaps we may have to breed a special kind of businessman to run small business. He will have to be smarter, in many ways, than his counterpart in big business. He will not have the high priced talent advising him in every field, or the financial resources to see a new idea through in a way that minimized failure. He will have to be alert in a specialized field, imaginative, quick to appraise and adapt new ideas, and equally quick to get them into production and on the market. He must select his markets as he selects his products—a specialized selection which he can turn to advantage. The small business man must be above all things, an opportunist. In his opportunistic alertness lies the promise for the health of small business, and who

knows, a coming era of bigger headaches for many new era big businesses.

CODEINE IN ADVERTISING

(*Continued from page 165*)

other narcotics for its effects upon users, or for its habit-forming properties, it still can be dangerous. Certain people, often women, become addicted to it. Just recently a boy, filled up with a well-known codeine-containing exempt cough syrup, shot a policeman. The Bureau of Narcotics is not without problems concerning codeine, even though they are very strict in regulating its use and distribution.

In the case of Coldene, the last word was that the company had decided to take codeine out of the preparation and continue to advertise the product to the public. This, naturally, will cause a drastic change in the advertising of the preparation, but apparently the company is interested in producing and selling a mass product which it feels can be made to appeal to the public, rather than a product which could be promoted to and through the professions of medicine and pharmacy.

MEASURING SHAMPOO PERFORMANCE

(*Continued from page 175*)

but should give a better understanding of service or use performance by an accurate, controlled laboratory procedure.

Barnett-Powers Latherometer

In setting up a new test for measuring the foaming action of a shampoo or detergent, it is recognized that excellent test methods exist, such as the Ross-Miles[7] Foam Test and the modifications suggested by Colson[8] and Sanders[9]. In Germany[12] a perforated disk on a plunger was used for developing foam. Giers[13] in 1951 studied alkyl sulfates agitating the solutions with a perforated disk for five seconds. He also studied the effect of lanolin and mineral oil. The Barnett-Powers Latherometer shown here is designed to give a lather test more closely simulating the conditions found in working up a later or form during shampooing. This Latherometer test also gives a chance to measure "foam volume" and "foam-wetness." Both the volume and wetness appear to be a characteristic of the type of soap or detergents used, and they indicate a quality of foam which is acceptable or recognizable by the consumer. It is suggested that a product giving a high "volume" foam with high "wetness" will be more acceptable to the consumer than a product giving a low volume and dry foam. In any event, at this time the detergents giving high volume-wet foams have over 75-80 per cent of the shampoo market. This Latherometer is particularly useful in studying the effect of hard water, sebum, sweat, soil and hair dressings on the foaming action of a shampoo. It is of course particularly valuable in studying detergents or soaps that go into shampoo formulation.

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contain a combination of a soap or detergent, a conditioning agent, a foam builder and a buffer. It may also contain a number of other ingredients, such as a thickener, a sequestrant, an antiseptic, but these additives are selected to build up a finished product with foam and cleansing action to leave the hair soft, lustrous and manageable.

Description of Latherometer

In the Latherometer a stainless steel screen is used at the end of a plunger moving in and out of the shampoo solution to drive air into the solution and generate foam. Various types of screen can be used, but we selected a 20-mesh screen as giving the most reliable, reproducible results. The screen must be cut to give adequate clearance from the walls of the test cylinder. The rate at which the plunger moved could of course be varied, but we found that 38 strokes per minute gave the most uniform results. A 1000 ml. graduate was filled to exactly 500 ml. with the shampoo solution and the plunger ran from the 1000 ml. to the 100 ml. mark. Twelve plungers were set up on the one cross arm, but clearly any convenient number could be used. The shaft raising and lowering the cross arm is attached to the edge of a rotating disk and can be readily adjusted for length of stroke.

Studies were made on twelve important detergents and soaps and on twelve important shampoos. Using the Latherometer, it is possible to measure the effect on the foam production of the:

1. concentration used or detergent or shampoo
2. time of running the Latherometer
3. effect of hard or soft water
4. effect of synthetic sebum
5. effect of synthetic sweat
6. effect of lanolin
7. effect of hair dressings
8. effect of mineral oil.

Obviously, any chemicals could be studied as well as the effect of temperatures of sudsing and rate of sudsing. It also affords an excellent method of comparing several products under widely varying conditions. In this paper a start is made of studying this Latherometer, but clearly a great deal more work must be done to establish its accuracy and determine its entire range of usefulness.

Clearly, this is a laboratory test and great care must be taken in interpreting its data in terms of actual shampoo performance and acceptance. Let us repeat: reliable laboratory data only when properly interpreted give the best method of studying and developing new products and for evaluating old ones.

Hard Water

The formula for hard water at 175 parts per million hardness is the same one previously described by Barnett and Powers[6] and prepared as follows:

175 p.p.m.	
Calcium Chloride (anhydrous)	0.1295 grams
Magnesium Chloride (hexahydrate)	0.1406 grams
Water q. s.	1000 ml.

The soap, shampoo and detergent solutions were made up using this solution. It is interesting to note that low concentrations of soap lose most of their foam in water of this hardness; higher concentrations of soap give excellent lather.

TABLE II
Effect of Shampoo Concentration in Hard Water

Shampoo	Foam Volume (ML.) 5 Minutes Plunging					
	0.5 Per Cent		2 Per Cent		8 Per Cent	
	Soft Water	Hard Water	Soft Water	Hard Water	Soft Water	Hard Water
Synthetic	83	49	68	86	73	96
Synthetic	73	29	73	39	60	62
Soap-Synthetic	62	26	120	83	86	96
Synthetic	76	23	106	60	117	109
Synthetic	96	49	162	65	76	86
Soap-Synthetic	76	26	52	44	114	65
Soap	87	0	78	52	68	90
Synthetic	76	62	73	92	70	92
Synthetic	103	47	114	83	106	78
Synthetic	109	29	155	78	94	106
Soap-Synthetic	60	13	62	65	100	62
Synthetic	68	70	114	81	146	106

TABLE III
Effect of Detergent Concentration in Hard Water

Detergent	Foam Volume (ML.) 5 Minutes Plunging					
	0.25 Per Cent Active		1 Per Cent Active		3 Per Cent Active	
	Soft Water	Hard Water	Soft Water	Hard Water	Soft Water	Hard Water
Potassium Coconut-Oleate Soap	62	34	90	57	68	60
Sodium Alkyl Sulfate	76	125	103	83	125	143
T.E.A. Alkyl Benzene Sulfonate	73	112	81	76	92	120
Ammonium Polyoxyethylene Alkyl Sulfate	49	62	57	92	81	78
Sodium Alkyl Phenoxy Polyethoxy Sulfonate	57	73	60	49	90	73
Protein Fatty Acid Condensate	55	78	62	117	133	182
Polyhydroxy Amine Fatty Acid Condensate	70	13	96	133	150	78
Sodium Alkyl Amide Sulfonate	60	92	109	127	Gelled	
Alkyl Imidazolinium Sodium Carboxylate	44	36	62	62	68	68
Polyoxyalkylene Glycol	21	0	81	10	52	73
Polyoxyethylene Sorbitan Monolaurate	34	44	52	44	60	8
Alkyl Dimethyl Benzyl Ammonium Chloride	65	65	70	36	73	70

Many of the synthetic detergents and shampoos lose some of their foam in hard water when used in low concentrations, but in higher concentrations they have excellent foam. In general, it may be suggested that hard water hurts foam qualities only when the shampoo is used in low concentrations. In general, soap shampoos have a softening action on hard water.

Sebum

In an effort to study the effect of sebum on the foaming action of shampoos, a formula for synthetic sebum was developed, as shown below:

Synthetic Sebum	Per Cent
Lauric Acid (95 per cent) (Swift Neo-Fat 12)	1
Myristic Acid (94 per cent) (Swift Neo-Fat 14)	2
Palmitic Acid (90 per cent) (Swift Neo-Fat 16)	7
Stearic Acid (97 per cent) (Humko Hystrene S-97)	5
Oleic Acid (95 per cent) (Emery's Emersol 233LL)	10
Linoleic Acid (Glyco Products)	5
Coconut Oil (Procter & Gamble Moonstar Brand)	15
Olive Oil (USP)	20
Squalene (Distillation Products)	5
Cholesterol USP (Wilson)	5
Paraffin USP (133-135 AMP)	10
Spermaceti	15

These acids and oils are melted at 70°C. and stirred while cooling to a thick paste. This formula for Syn-

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thetic Sebum is based on Mackenna's[10] work published in the *Journal of Investigative Dermatology* and which indicated that surface human skin fat had approximately the following composition (see below):

Human Sebum	Per Cent
Free Fatty Acids (Sat.)	15.
Free Fatty Acids (Unsat.)	15.
Triglycerides	32.5
Waxes (Exluding Cholesterol Esters)	12.5
Free Cholesterol	2.5
Combined Cholesterol	2.5
Other Sterols	2.5
Squalene	5.
Paraffin	7.5
Unidentified Compounds	5.

The addition of two per cent Synthetic Sebum had surprising effects and doubled the foam with some

TABLE V
Effect of Synthetic Sebum on Shampoos at Varying Times

8 Per Cent Shampoo (as is) (Soft Water)	Foam Volume (ML.)							
	1 Minute		2 Minutes		3 Minutes		5 Minutes	
	Control	2 Per Cent Sebum	Control	2 Per Cent Sebum	Control	2 Per Cent Sebum	Control	2 Per Cent Sebum
Synthetic	39	34	47	42	52	52	73	73
Synthetic	31	31	39	36	49	42	60	52
Soap-Synthetic	34	62	44	73	55	78	86	96
Synthetic	36	34	52	42	65	49	117	65
Synthetic	42	34	55	36	62	39	76	49
Soap-Synthetic	44	36	60	39	70	39	114	47
Soap	29	62	39	78	47	92	68	120
Syntheic	36	23	44	26	49	26	70	26
Synthetic	57	39	65	39	76	44	106	52
Synthetic	42	36	49	42	55	49	94	62
Soap-Synthetic	52	31	60	34	76	39	100	49
Synthetic	60	39	92	39	106	39	146	39

TABLE IV
Effect of Synthetic Sebum on Detergents at Varying Times

3 Per Cent Active Detergents (Soft Water)	Foam Volume (ML.)							
	1 Minute		2 Minutes		3 Minutes		5 Minutes	
	Control	2 Per Cent Sebum	Control	2 Per Cent Sebum	Control	2 Per Cent Sebum	Control	2 Per Cent Sebum
Potassium Coconut-Oleate Soap	31	193	42	305	49	399	68	507
Sodium Alkyl Sulfate	39	114	55	168	86	203	125	249
T.E.A. Alkyl Benzene Sulfonate	36	90	42	120	52	150	92	193
Ammonium Polyoxyethylene Alkyl Sulfate	34	47	42	70	57	78	81	100
Sodium Alkyl Phenoxy Polyethoxy Sulfonate	39	52	47	78	57	92	90	112
Protein Fatty Acid Condensate	42	62	52	86	73	100	133	112
Polyhydroxy Amine Fatty Acid Condensate	42	78	55	125	76	140	150	198
Sodium Alkyl Amide Sulfonate	Gelled	36	Gelled	26	Gelled	21	Gelled	31
Alkyl Imidazolinium Sodium Carboxylate	39	73	44	103	47	120	68	150
Polyoxyalkylene Glycol	34	0	47	0	49	0	52	0
Polyoxyethylene Sorbitan Monolaurate	31	16	44	13	49	18	60	13
Alkyl Dimethyl Ammonium Chloride	39	0	49	0	52	0	73	0

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shampoos and decreased it sharply in other cases. In some cases the formulated shampoo had a poorer foam with sebum than the synthetic detergent from which it was formulated. In any event, the effect of sebum on the hair and in laboratory tests needs much more study in the formulating of new shampoos. Harry[5] points out that you *must* shampoo the head *twice* because you do not get good action and foaming on the first application. Perhaps, if he worked with a shampoo that foamed well in the presence of sebum, he would get a good foaming action on the first application. Certainly, the effect of sebum on the action of shampoos on the head and in laboratory tests needs much more study and we can expect to develop better shampoos from these studies.

Sweat

A synthetic sweat was prepared as follows:

Synthetic Sweat

Sodium Chloride	0.7 gram
Lactic Acid	0.1 gram
Citric Acid	0.02 gram
Caprylic Acid	0.1 gram
Ascorbic Acid	0.05 gram
Water q. s. to	100 ml.

The formulation is based on the work of Peck[11] and his associates published in the *Archives of Dermatology*. As would be expected, the addition of synthetic sweat reduced foam slightly due to its acidity and salting effect. In general, however, its effect was slight and along the lines that would be expected.

TABLE JVI

Effect of Synthetic Sebum, Synthetic Sweat, Lanolin, Mineral Oil and Castor Oil on 3 Per Cent (Active) Sodium Alkyl Sulfate

3 Per Cent Active Sodium Alkyl Sulfate	Foam Volume (ML.)			
	1 Minute	2 Minutes	3 Minutes	5 Minutes
1 Per Cent Synthetic Sebum	39	49	52	65
2 Per Cent Synthetic Sebum	158	218	255	284
3 Per Cent Synthetic Sebum	92	158	177	218
1 Per Cent Synthetic Sweat	31	47	52	73
2 Per Cent Synthetic Sweat	34	44	52	76
5 Per Cent Synthetic Sweat	42	47	52	76
2 Per Cent 5 Per Cent Sweat	92	150	185	244
1 Per Cent Lanolin	39	44	47	55
1 Per Cent Mineral Oil (Light)	39	39	49	55
1 Per Cent Polyalkylene Glycol	39	47	52	76
1 Per Cent Castor Oil	34	42	47	62
Control	39	55	86	125

Hair Dressing

Foam studies were made to study the more widely used hair dressings: mineral oil. Ucon or poly oxyalkylene ethers, castor oil and lanolin. These dressings tended to cut foam but it became evident that shampoos could be built which would give excellent or improved foam in presence of these hair dressing materials. It is possible that in many cases, particularly on men's hair, that surprisingly high concentrations of these hair dressings would be found on the hair. Future studies should look into the effect of P. V. P. and shellac and other aerosol hair spray components on the effectiveness of shampoos.

Foam Wetness

In these foam studies it was found that the amount of water held or entrapped by the foam varied sig-

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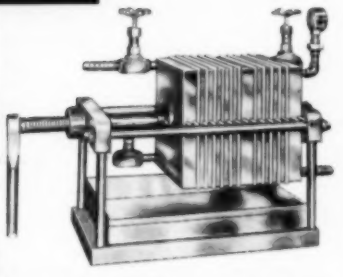
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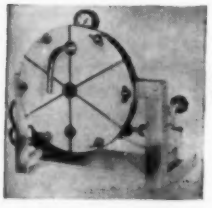

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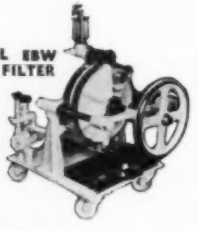

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nificantly from one detergent to another and from one shampoo to another. A rich, thick foam usually held twice as much water per unit volume, and it is suggested that these "wet" foams are preferred by the shampoo user. Those products used in bubble baths which give extremely voluminous foams in the bath tub usually produce relatively "dry" foams holding very little water. These dry foams were usually more brittle and had far less feeling of richness. It is suggested that shampoos giving a large volume of a longer-lasting wet foam and which are equally effective with hard water, sebum, sweat and hair dressings will be generally popular—assuming they receive adequate and smart advertising support. In an industry where an inferior product can put you out of business if it has superior promotion, it is important to have good advertising, but with good promotion it probably helps to have a shampoo that performs better. Let us hope so!

Consumer Reaction Compared with Latherometer

While it is only a very limited study, it should be reported that two of the shampoos tested in the Latherometer were also consumer panel tested by sending out three hundred samples in plain bottles coded only with letters. These two shampoos in the Latherometer showed almost identical foam volume in soft water at all concentrations; however, in hard water at 175 p.p.m. the first shampoo gave increased fo ım of excellent quality and wetness, and the second shampoo lost much of its foam and was very demonstrably poorer. In the consumer panel test sent to women all over the country, they preferred the first shampoo, a good hard water foamer, by a 2-1 preference because of its "better lather."

A second consumer panel test also clearly established that the average consumer could and did select the stronger and more active of two shampoos that were technically similar in composition and varied only in concentration. The difference in active concentration gave better foaming values on the Latherometer and greater activity in the presence of hard water, soil and hair dressing and the consumer seemed to recognize the difference.

Conclusion

The evaluation of a shampoo is a complex and involved problem. The development of a Latherometer offers a means of studying the foaming value of detergents and shampoos under controlled laboratory conditions. It is also possible to study some of the variables which are encountered in actual use such as hard water, sebum, sweat and hair dressings. It is hoped that the Latherometer will help to clarify the effect of these variables found in use and enable us to study them under controlled laboratory conditions. Perhaps, we shall be able to develop a new shampoo which tests better and which under identical promotional,

merchandising and advertising techniques will outsell the old shampoo by two to one!

Acknowledgments

The authors wish to express their deep appreciation of the great help and valuable assistance and suggestions received from the following:

C. M. Anderson, G. W. Lewis, C. E. Nottingham, E. I. Valko.

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MAKE-UP LOTIONS

(Continued from page 173)

to keep a standard compound only of opacifier and pigment as a means of comparison. The emulsion meanwhile may be made in the conventional manner—that is by heating the oil phase and introducing with the water phase containing the emulsifier—after being heated to the correct temperature. Stirring should be slow but thorough until the temperature is reduced to perhaps 110° F. and the pigments and powders introduced at this point, then thoroughly incorporated. I have found that homogenization improves the stability and dispension of the pigments through the emulsion.

There may be difficulties encountered in pigment and filler mixing due to air incorporation and to difficulty in wetting which must precede proper incorporation. If the powders are introduced when the emulsion is sufficiently warm the air will escape more quickly and this does not become any great problem. If the emulsion has thickened to too great an extent, it would be difficult to free the incorporated air. It is extremely unwise to homogenize before the air is driven off since this is a most effective way of entrapping it more firmly and could easily cause the emulsion to break on standing, due to the gas floating to the surface and dragging some of the emulsifying agent with it.

Faster wetting of the powders may be accomplished by the addition to the powders of a small amount of a wetting agent. The wetting agent would have to be compatible with other raw materials comprising the system, and effective in a small enough concentration so that its presence does not interfere with the stability of the system.

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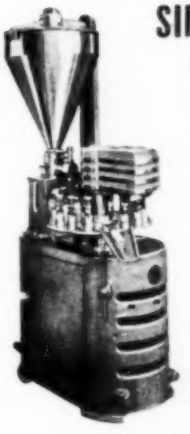

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This article must of necessity be broad and general in its scope. The problems discussed, however, are treated by specific recommendations of method, if not by specific recommendations of actual material. It has become axiomatic that emulsions are not easily treated as following well defined rules. In certain emulsions the addition of a humectant would sometimes decrease viscosity and the addition of another might increase it. However, under a different set of conditions the effects could easily be reversed. Therefore, the scope of this article encompasses the practical considerations of formulation and manufacture.

STEROID HORMONES 1956

(*Continued from page 167*)

shown to result in a great increase anti-inflammatory potency. While this product had certain disadvantages when given systematically because of increased sodium retention, its usefulness when applied locally was indisputable. The great importance of fluoro hydrocortisone was that it showed that the potency and physiologic side effects of hydrocortisone could be modified by variations in the basic structure and this led to greatly renewed interest in the discovery of new compounds which might be improvements over the original adrenal steroid.

In 1955 the 1-dehydro derivatives of cortisone and hydrocortisone, prednisone and prednisolone were produced. These compounds were shown to have from three to four times the potency of cortisone and hydrocortisone with the additional important advantage that they had far less salt retaining effect. In the first months of 1955 the introduction of these newer steroids resulted in a tremendous increase in adrenal steroid sales. While it is true that the increased potency of these compounds requires a lower dosage, the overall consumption was greatly increased. The knowledge that greater effectiveness with fewer side effects could now be obtained resulted in inducing many more physicians to prescribe adrenal steroids for many new patients.

While the 1-dehydro steroids were first introduced by Schering who produced them from animal steroid sources (desoxycholic acid) the announcement several months later by all of the other steroid manufacturers of the availability of these compounds meant that the porportional usage of animal versus vegetable steroids would in the long run, not be too greatly altered. During the first few months of Schering's entry with their new compounds, they managed to capture from one-third to more than two-thirds of the adrenal steroid market. With the 1-dehydro compounds now available from Upjohn, Sharp & Dohme and Pfizer, the sales will tend to redistribute themselves again in accordance with the sales efforts of the various companies. Elegant methods for introduction of the 1-dehydro group via fermentation have now been published by several laboratories, and the larger demands for 1-dehydro compounds should enable the steroid fermentors like Upjohn to greatly decrease their cost with mass production. Further improvements are in the offing now as clinical tests are performed on 1 dehydro-9 fluoro compounds, 1 dehydro-2 methyl, 14 hydroxy, etc. At any rate, it is now clear that the outlook for consumption of adrenal steroids made from both animal and vegetable sources has improved greatly.

(To be concluded)

LIQUID ROUGE

(*Continued from page 177*)

at rest but are fluid after shaking; this retards and in some cases altogether prevents settling of the solid particles. Liquid rouges, for the most part are sold in small consumer packages where shaking is not very efficient, however, so that thixotropic suspensions might be troublesome. Finally, a higher boiling liquid, a polyhydric alcohol or glycol, should be included to prevent complete drying of the preparation, on the skin or on the bottle neck, to a flaking powder. The major liquid in these aqueous suspensions is, of course, water with some added alcohol to help in solubilizing the perfume. Some water-soluble dye should be included so that settling of the pigment will not leave a colorless liquid layer. Further than this, it should be useful to include a staining dye to enhance the coloring action.

As an additional note, some make-up bases are oily and highly water-resistant. An aqueous rouge suspension, especially if it contained a wetting agent, could be applied and smoothed over such a base, but it might be better as part of the line to make the liquid rouge product a suspension of pigments in an oily base.

Liquid emulsions seem presently to be most common and most popular among liquid rouges. They offer a larger scope for formulation and promotional language because of the variety of properties that can be built into the preparation. By the same token, however, the formula then becomes more complex when emollient action or acid pH is pointed up.

Fundamentally, these formulas consist of stable oil emulsions containing a substantial amount of pigment, the emulsifying agent and the emulsified oil tending to prevent the settling of the pigment. Fatty acid monoglycerides are useful for stabilizing the emulsion, with the addition of soap or a synthetic surfactant as the primary emulsifier. The latter, as usual, may be anionic, cationic or nonionic, and polyglycol fatty acid esters are useful emulsifier additives. The oily component may be a combination of vegetable, mineral and synthetic oils (isopropyl myristate, for example) with lanolin and other emollients. In short, a lubricating lotion should be formulated that will have the desired consistency when pigments have been included. The emulsion itself should be tinted to blend with the color of the final product, and if staining is desired, both oil and water soluble stains may be used.

Even as with the perfume and the exact shade, no specifications can be made for the most desirable physical properties in the finished product. With both manufacturers and consumers, some like them thick, others like them thin; excess in either direction is undesirable.

CONTAINER DEVELOPMENTS FOR TOILETRIES

(Continued from page 191)

of plastic bottles and films, corrosion studies, etc. Our 104°F.-70°F. cycle room induces "breathing" in packages and more nearly duplicates the fluctuations encountered in actual weather.

Physical "Beater-Uppers"

We have several pieces of apparatus which we use principally for physical abuse.

The *drop tester*, Fig. 1, is generally used for checking the shipping container filled with intermediate and inside packages containing the product. We have on occasion, however, used it for physical tests on individual inside packages.

The *vibration tester*, Fig. 2, is a moving table which simulates the motion and amplitude of vibration encountered in freight cars and motor trucks.

In a matter of minutes the drop tester can point out weaknesses of shipping containers, cushioning, packing arrangements or inside packages. In a matter of hours the vibration tester gives us clearer data than weeks of actual shipping tests.

The *vacuum leak tester*, Fig. 3, is used principally for determining the adequacy of electronic and heat seals on small film or foil laminate packages.

The *air pressure tester*, Fig. 4, has been used for testing vented closures and for checking the adequacy of folds on collapsible tubes.

Collapsible tubes are also worked over in our *tube crusher*, Fig. 5. Here we deliberately make an accordion pleat in the tube wall, then pull open the pleat and examine how well the external and internal coatings adhere, and how well the parent metal holds up.

A simple *tumbling apparatus*, Fig. 6, can be improvised by using a roller mill with a fiber drum. We have used this apparatus to deliberately scratch bottle surfaces in testing silicone and other protective coatings.

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Polaroscope, Fig. 7—for spotting strains in glass containers and in certain transparent plastic pieces.

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In container work, size and tolerances are of great consequence. We use an assortment of *gauges, micrometers and calipers*, to measure size. We measure volume with an automatic burette which we had calibrated in fluid ounces.

Weight change tests are a must in closure and container barrier testing. To measure changes we use an *analytical* and a *torsion balance*.

Torque testers, are necessary in almost all tests with screw closures. It is necessary to know how tight the closures are and to maintain uniform tightness in tests. It is also very important to know how much torque caps can take prior to breakage and deformation.

The *Beach-TMI puncture tester*, is used to determine puncture resistance of corrugated and solid fibreboard.

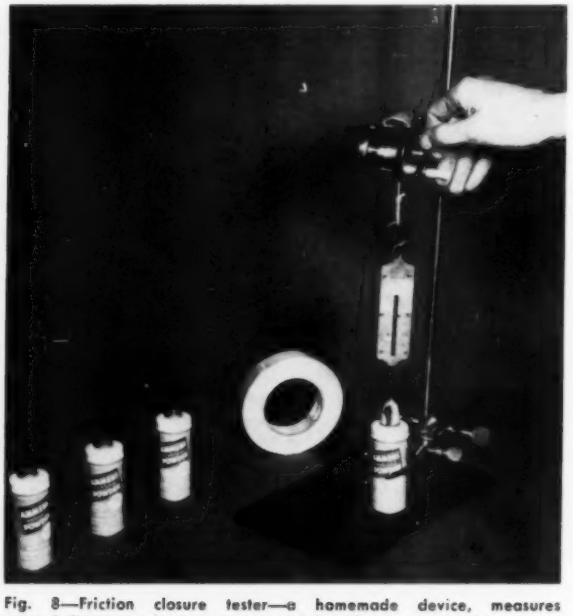

Fig. 8—Friction closure tester—a homemade device, measures normal force required to remove friction fit caps and plugs.

Friction Closure Tester, Fig. 8—This is a homemade device for measuring the normal force required to remove friction fit caps and plugs.

Corrosion Testing Equipment

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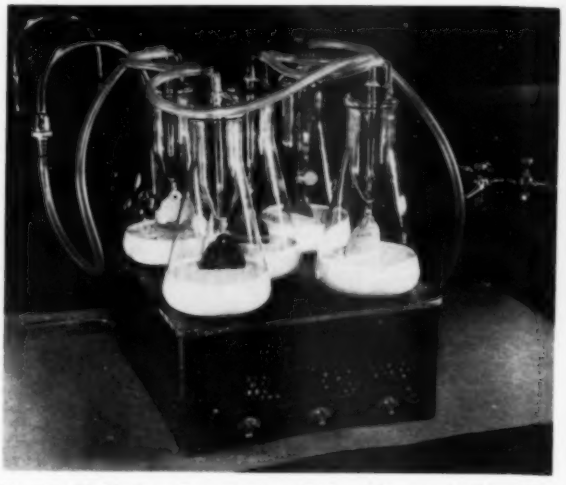

Fig. 9—"Cold finger" apparatus. Each wide mouth Erlenmeyer flask has a condenser top ("cold finger") with a hook for attaching corrosion test specimens.

"Cold finger" apparatus, Fig. 9, for accelerated testing of metal and plastic strips.

Equipment for Cutting, Making, Closing and Filling Containers

We use:

Hot wire glass cutters for sectioning glass bottles.

Cap liner punches, set in a modified arbor press make it easy and quick for us to set up cap liner tests.

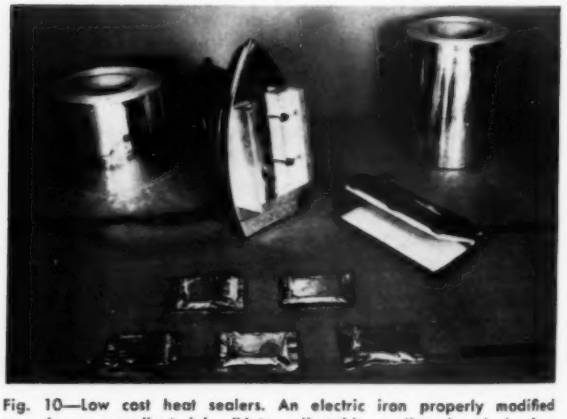

Fig. 10—Low cost heat sealers. An electric iron properly modified can do an excellent job. (Note adjustable sealing bars.) A clam sealer is on the right.

Heat sealers, Fig. 10—for films and heat sealable laminations. An ordinary electric iron properly modified makes a very inexpensive thermostatically controlled sealer. A clam type sealer can be had for a few dollars.

Tube equipment in the laboratory comprises a filler and closer of collapsible tubes.

Paper cutter—an old but very useful device in carton, paper, foil and film work.

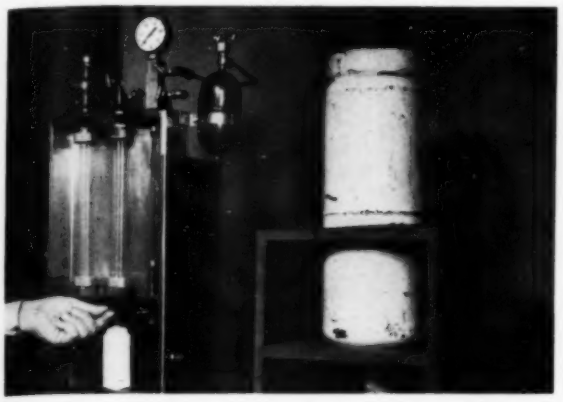

Fig. 11—Filling propellant in an aerosol can with a pressure filler.

Aerosol equipment—a pressure filler for propellants, Fig. 11, a valve crimper, and a bottom sealer,are used to good advantage.

In addition to the above equipment, we call upon pilot plant and plant packaging machinery as the need arises.

Other Equipment

The Container Laboratory also utilizes hoods, laboratory furniture, sinks, utilities and common hardware tools.

Equipment needs will vary according to a company's operations and types of products. As new products and technology are developed, requirements will change. Advances in pressure containers (aerosols) and in plastics during the last few years have already revamped equipment requirements. Sometimes the advances are so rapid that selfdesigned equipment must be employed.

Outside Services

No single individual or company has a monopoly on ideas or facilities. Hence, it is sage to make use of the services of container suppliers and consultants. Promote cordial working arrangements with them. However, do not leave everything up to the outside services. You know your needs, operations and products better than they do. Also remember this: the supplier's development funds, facilities and time are budget items too—and you are only one of his customers.

Dividends

Container development with a practical approach pays dividends: in product promotion, customer good will, better plant operations, and cost savings. We have today many examples of products that were "made" by containers—products like hair spray nets, easy to apply deodorants, convenient shampoos; containers like aerosols and polyethylene bottles. Containers and toiletry products non-existent five years ago—both united and producing dividends.

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